

Bob Cooper's

JULY 15 2005

SatFACTS

MONTHLY



Reporting on "The World" of satellite television in the Pacific and Asia

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'05: American
trade show**

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Memories of
C-band-direct**

**B3 = B1?
Don't count
on it**

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News
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- ✓ Observer Reports

Vol. 11 ♦ No. 131
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Hualin Pty Ltd

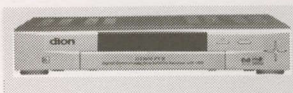
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For all prices, product information and banking details please visit the website or phone us.

Specials this month

DT800PVR - Digital Receiver



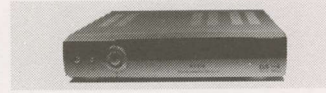
- 40Gb HDD = 40hr Record time
- 2x CI CAM Slots
- DiSEqC 1.2
- **Fibre Optic Output Capability**
- Price: \$390 AUD + GST

Satlook - Signal Meter



- Digital, Analogue and combined versions available
- A must for the professional
- Simple menus and functions
- Price: Phone up for Quote

DreamMAX - DT470



- Irdeto embedded
- 4900 Channel Memory
- DiSEqC 1.2
- User Friendly
- Price: \$200 AUD + GST

Everything? Yeah we got

LNBF

- Zinwell C Band
- Zinwell KU Band
- MTI C Band, Superhigh gain
- One Cable Solution - CBand
- Dual Output KU 11300 MHz

Positioners

- Superjack EZ-2000
- Superjack DP-6600, DiSEqC 1.0/1.2
- Technosat DP-200, DiSEqC 1.2
- Manual Actuator Driver - EW101
- SAP 2000: 99 Memory positioner

Actuators

- Superjack HARL-3618, 18" Actuator
- Superjack HARL-3624, 24" Actuator
- Superjack DG-120, H/H Mount

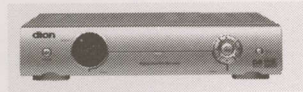
Receivers

- SuperNET CA, Irdeto Embedded
- Success, Free-to-Air
- Dion DT-370, Free-to-Air Receiver
- Dion 2x CI, Hardware AllCAMed
- ChangHong, Mediaguard embedded
- SuperNET Terrestrial, DVB-T
- Phoenix High Definition STB

Dish and mounts

- 1.2, 1.8m Solid Prime focus
- 45, 60, 65, 85cm KU dish Offset
- 2.13m, 2.27m, 2.4m, 3.0m, 3.07m, 3.7m, Mesh Dish, Light and Heavy Duty PSI and JOYSAT Available
- CBand Wall brackets
- CBand Concrete mounts and stands
- KU Gutter mounts
- KU Wall mounts
- KU Float mounts
- KU Tinroof mount

Dion 818 CI - Digital Satellite Receiver



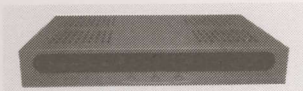
- Slim Size and User Friendly OSD
- 2x CI (Common Interface) slots
- Hardware AllCAMed

SuperJack H-H Actuator, DiSEqC embedded



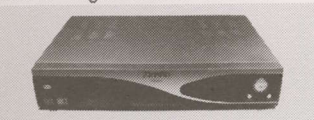
- All it takes is one coaxial cable....
- NO MOTOR CABLE REQUIRED**
- DiSEqC Positioner EMBEDDED!

Supernet - Terrestrial DVB-T



- Digital Terrestrial Receiver
- Slim Design
- High Quality Picture
- Easy to install and use

Dion316 - Digital Satellite Receiver



- FTA + Software Patched
- 4000 Channel Memory
- DiSEqC 1.0/1.2 Compatible
- Price: \$170AUD + GST

Switches and Splitters

- 2 and 4 way DiSEqC switches
- 0/22kHz switches
- 2 and 4 way cable splitters
- V/H Multiswitch
- 0/12V Switch

Cable - 15m, 25m, 305m packs

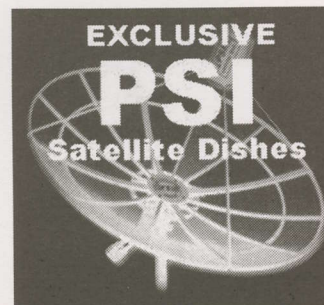
- RG6-U Dual Shield Coaxial Cable
- RG6-U Quad Shield Coaxial Cable
- Cat5 Actuator Cable

Plugs

- F Connectors, Screw or Clamp types
- Cable joiners
- AV Splitters
- Cable Strippers
- Cable clampers
- Various other joiners and accessories e.g. RCA/SCART cables and converters

Misc

- 2.4GHz AV Sender
- Irdeto 2.06B CAMs, Viaccess CAMs
- Satlook Digital Signal Meter
- Satlook Analogue Signal Meter
- Satlook Digital + Analogue combo
- Satellite finders
- Angle level measure instrument
- High Quality Compasses



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This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education. These messages are available to anyone willing to install appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of these messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

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our ELEVENTH year!

COOP'S COMMENT

This month's issue reviews the status of TVRO in North America; the USA to be precise. *Why should we care?*

Without respect to your political and social conscience, what the Americans do is sooner than later going to have a direct impact on how we all earn a living. We may not agree with their policies, their habits or their political agenda but there is no escaping their influence.

What this issue relates is that C-band-direct TVRO is even more perilous there than here - if that were possible. And Ku band is largely driven by the two competitors (DISH Network and DirecTV) who between them now have more than 24,000,000 (million!) subscribers. DISH and DirecTV dictate how much an installer will be paid, when he will be paid, how he will be monitored. If that sounds like Sky NZ, Austar or Foxtel - well, there are sound reasons why.

In the legendary C-band-direct days of the 80s, installers were walking away from a dish installation with thousands of profit dollars in their pocket. No more, never again. Fifty profit dollars is more than norm today, and 'profit' really means hourly wage for each install.

Still, there are opportunities remaining to make more than a living wage at TVRO. New technologies offering internet via satellite, even TV plus internet in a moving vehicle, remain 'pricey' and are niche type opportunities to make more than \$50 for each install-stop.

Satellite Expo '05, held in Memphis, Tennessee (yes - the home of Elvis) contained around 106 exhibitor booths displaying a wide-wide range of products some how related to satellite. Attendance figures are not available but our estimate suggests around 1,600 attendees plus some not small quantity of exhibitor personnel (several hundred more). The show revolved around formal, certificate-awarded 'training sessions' created as one day schools to prepare installers for some special skills, such as installing WildBlue satellite internet service. The show folks also scheduled several dozen 30 minute to half day sessions without certification focusing on subjects such as MDU (multiple dwelling unit) techniques and technology. This was the first North American TVRO/home dish system 'trade show' since 1998 or so and the object was to bring back some cohesion to what has since the introduction of DISH and DirecTV (the mid 90s) become an industry without collective judgement.

Expo '05 was a successful effort and already Satellite Expo '06 is scheduled (April 18-22) in Atlanta (Georgia), the home of Ted Turner and CNN-plus. In '06, there will be two days of certificate training sessions (18-19) and three days of exhibits (20-22). Here is a suggestion.

Av-Comm's Garry Cratt suggests a South Pacific contingent to attend, enmasse, as a group. If such a 'family' numbered in excess of perhaps 25, there are some lower cost travel and lodging options which as a group could be put in place to make the trip more affordable. But only if the arrangements are completed some months in advance - say by early-January 2006.

The reasons for attending are many, not the least being that everything that is brand new and not yet (in April 2006) available here in the Pacific will be on show. Moreover, the training sessions we monitored while attending '05 were of excellent calibre and quality - although it is difficult to properly measure how much benefit one receives when learning new technology taught by world-class leaders in a specific field, but in a 'foreign' country.

Way back in 1984, this writer organised and led a group of 30 TVRO professionals from North America to Sri Lanka where we installed three very large (16 to 25 foot) C-band dishes for (Sir) Arthur C. Clarke and the Sri Lankan technology university. *This trip* would be different, based more on our learning than our teaching - as we did in Sri Lanka. Still, it would be a 'showing of our flags' - a once in a lifetime opportunity to rub elbows with folks who do what we do in a culture that most can but imagine.

Interested? Drop Garry (or me) a line (PO Box 330, Mangonui, Far North, New Zealand), an Email (skyking@clear.net.nz) or call (+64 9 406 0651) and let's discuss the project. For most, the cost of such a trip would be deductible as a business expense (which of course assumes the business can afford the expense!). For all, the rewards should be larger than the cost.

In Volume 11 ♦ Number 131

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The Legend of Max Robinson -p. 13
How they structured the Memphis trade show -p. 22

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Supplemental Data -p. 26; With The Observers -p. 27; installing dealers -p. 29

-On the cover-

19 years after C-band-direct folded up in the USA, there remains but one company still producing C-band dishes. 'Sami' covers the size ranges from 6 to 12 feet, has very limited sales inside the USA but continues to find niche markets for export (page 6).



July 15, 2005



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PROGRAMMER PROGRAMMING PROMOTION

UPDATE

JULY 15, 2005

Expo '05 in Memphis

"What a great show. We have not had a show in the (TVRO) industry in years and I was delighted to find Satellite Expo 2005 heavily weighted with free to air equipment and installation gadgets; FTA is not dead! The show was a huge success and grew significantly from an Email query seeking interested parties. The show's creator, JEM Communications, really pulled it off in style. This was their first satellite show and what a professional job they did. I've exhibited at lots of trade shows through my 25+ years of TVRO industry participation, but never has any of them been run as professionally as this one. The constant attention of the show (and facility) staffs made every detail come off without a hitch. If you were at the show opening day, you might have connected with the legendary Bob Cooper. That alone made the show for me, but I want to tell you, that was just the beginning. To my great pleasure, I saw many satellite veterans such as Bob Taggart (Chaparral Communications), Sam Conwell of Bo-Dickey, Barney Fournier of Volunteer Satellite and Dick Glass of ETA, to name but a few. If you are in the satellite business and missed the show this year, missing in 2006 will be a big mistake. I will have details posted on our website (<http://www.dmsiusa.com>) shortly."

Tim Heinrichs, DMSI, USA

"Without a hitch?" Well, when power for the full facility shut down all air conditioning, lights and equipment displays on opening day for a couple of hours, we had to wonder about someone's "attention to detail". It turned out to be a car tangling with a high voltage power line nearby, certainly not something anyone could have forecast or corrected. But 96 degrees F and 90% humidity (without air conditioning) in Memphis late in June is to be avoided!

SA D9234 available

"Full manual, remote, unknown as to last authorised service. Contact me."

Ahmad Mobasheri, 64 9 534 1010
amobasheri@extra.co.nz

Out of market DTT? In Sydney, many people have installed large UHF aerials to pull in Newcastle or Wollongong analogue, to receive Cricket matches blacked out locally. Signal levels are of course variable (tropospheric enhancement 'conditions' at any given moment, and individual location plus and minus factors). Now that Wollongong commercial DVB-T uses (UHF) channels 36, 37 and 38, installers are finding it is possible to combine Sydney area VHF and reception from Wollongong - facing UHF antenna with excellent results. One reporter notes, "My location is very poor for reception, especially from the south, which has never allowed decent reception from Wollongong analogue. On the other hand, digital reception is steady and clean. By combining the signals with a triplexer, with a suitably chosen changeover frequency as well as some additional filtering, achieves this. The third, UHF high input on the triplexer, is used to bring in the north facing UHF aerial which on occasion produces the Newcastle DVB-T signals as well."

Minister of Broadcasting letter excerpts: "This Government is committed to a digital future for TVNZ and has specifically asked the broadcaster to plan for this. We are also keen for other Free to Air (FTA) broadcasters to provide a more accessible digital service.... You will appreciate that it is not necessarily productive for government to simply legislate to compel independent private broadcasters to provide a FTA digital service if there are indeed legitimate barriers to them doing so. Rather I believe that the current consultation process with the industry is the most productive means of advancing such an outcome." (Steve Maharey, Minister of Broadcasting, New Zealand)

Murdoch's next move. As the new owner of the world's largest DBS service (DirecTV in USA), and faced with competition from the world's second largest service (DISH TV), Rupert Murdoch has a new 'killer punch' winding up for delivery. Quoted directly in Business Week publication, he says DirecTV will, "gift 20,000,000 digital video recorders to all DirecTV subscribers" in the USA. Why? His 'target' is actually the video rental stores which specialise in overnight -3 night - one week rentals of recent films. VHS or DVD rental remains a cumbersome scheme. Users drive to a rental store, pick out a movie, stand in line, fill out a rental agreement, pay a deposit, drive home, play the rental device and then, the next day, repeat the exercise in reverse. Murdoch's plan involves gifting 160 GB hardware, with 80 GB reserved for downloading movies, automatically, during the night. That puts the films *in every home*, instantly, and viewers would access the newest films with their satellite STB remote - and be **charged** for **viewing** the film. Got it? The films are *already* 'in the home' waiting to be accessed for a charge-on fee!

Accuracy and Quality

Unaohm measurements are based on sound engineering principles that have been confirmed in some of the foremost engineering laboratories. BER precision is assured as the same BER systems are employed from the top of the line EP3000 all the way down to the new handheld models.

Features include Modulation Error Ratio, Data Logging, Spectrum, Expanded Spectrum and simultaneous views of any seven transponder signal levels.

S20 for Satellite QPSK, T40 for COFDM or C30 for QAM, complete the handheld family. And they all ship with a robust rubber holster and neck strap.

It's nice to save a few dollars, but if that means you buy a less than accurate instrument - is that wise?

Unaohm has almost 70 years of instrument manufacturing experience. Coupled with Laceys.tv factory trained support, your investment is assured.

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Digital and Analogue, Terrestrial, Satellite or Cable.

Alternate view: Memphis '05

"I was at the show Friday afternoon and Saturday morning; not an impressive show if you come from the 'good old days' of C-band direct. In terms of attendance, only the gatherings sponsored by DISH and DirecTV are truly large in attendance but they are structured such that it is more of a club-member atmosphere than a true trade show. Sadly, the DBS guys have sucked the breath and spirit out of the industry - there is almost no reason to be creative and restrictions if you try to be. Presently there are three categories out there: (1) DBS installers, (2) home theater specialists who do complex multi-format installs, and, (3) VSAT installers. I was impressed with the number of VSAT firms in Memphis, a few of which I am affiliated with. Right now there is lots of (install) activity in VSATs and the installer typically grosses \$300 plus per job. The flavor of the moment appears to be WildBlue which has done a creditable marketing job and is growing rapidly. My friend Mark Jackson left Memphis with an award for his satellite finding tool and that pleased me; I am including this tool in an install kit I currently provide under contract to the US Airforce. It is tough being a dealer, the DBS guys are setting up their own installation centers as rapidly as they can. In my world, secure video conferencing and VPN via VSAT, there is a need for expertise that keeps the margins reasonable. We have just begun the next plateau, sending video via MPEG4 over our IP network on VSAT. It is going to allow us to distribute video via IP quite inexpensively and that is exciting to me because I can effectively compete in the distribution of narrow cast channels."

Greg Heifner, Orbital Data Net, Inc.
Columbia, Missouri

Our views are quite similar - it is an industry searching for a central identity beyond the no-win world of DBS installs. There remains plenty of skilled talent out there, much of it searching for work and a reason to get up in the morning. See our full report starting on page 6.

Wrong designer?

"Suggest DVB-T is incorrect; it is not a generic term. The correct world acronym is DTT."

Roger Woodward, NSW
Correction noted!

HARDWARE EQUIPMENT PARTS

UPDATE

JULY 15, 2005

Two-way 'broadband' (as in speeds capable of delivering reasonable quality video material) under Australian government's subsidised HiBIS project are now functional. Brian Watson (Western Video, Tasmania) reports, "I commissioned one (June 30) and when I rang Optus BOC to check cross pole settings there were 14 other sites ahead of me so had to wait my turn". HiBIS is shorthand for Higher Bandwidth Incentive Scheme, a A\$107.8 million subsidy plan designed to encourage rollout of satellite (or wireline) higher bandwidth services to individual homes, or business with fewer than 20 fulltime employees. HiBIS functions with wireline (ADSL) and satellite users; there are 20 government approved providers of which 7 can offer satellite connection. Throughput data speeds with HiBIS range from 256 to 512 with monthly fees adjusted to both throughput speed and accumulated usage per month. The base rate is A\$55 (for a minimum of 500MB). As we report separately (p. 6) here this month, satellite broadband has had several years to mature in North America and installers are finding the (US)\$300 region installation fees on offer there much more attractive than DBS payment schedules. The subsidy programme is intended to absorb a portion of the total cost by government which in theory will reduce the cost per (rural) household to something approximating what a similar service would cost a family where normal wireline service is available. There are exclusion areas (regions where subsidy is not available) and other bureaucratic rules (see www.dcita.gov.au/hibis). Also see synopsis, p. 28 here.

Speaking of shows. 'Satellite 2006' to be held in Launceston, Tasmania in March has slightly adjusted show dates (change your calendar!): March 2-3 and 4. Queries to info@conferenceplus.com.au, web site www.conferenceplus.com.au/satellite2006 or call 61 3 6330 1444.

Tin whiskers. A reader notes, "This is hardly a new problem. I was working with Telecom on microwave radio systems and one Italian manufacturer in particular was noted for having this problem with their analogue equipment. The gear had used inappropriate tin alloys in various cavities in the RF equipment. I have inspected cavities literally covered in whisker growth, as if growing a beard. This was less significant on the transmit side as the higher currents would burn the whiskers out but on the receive equipment, some \$5,000 thick or thin film substrates were destroyed by errant whiskers. Apparently the whisker growth is a natural stress relief mechanism caused by incorrect tin alloy and individual whiskers continue to grow until the stress is relieved. Unfortunately, physical removal of the whiskers or use of conformal coatings did not stop the problem."

UK DTT STB pricing. Lowest during month of June was A\$81.78, 2 Scart + single Scart lead + UHF output. Models with pay-TV slot have A\$18.74 monthly programming charge option.



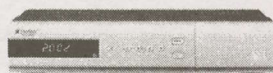
Phoenix Technologies

Satellite Equipment & Accessories One Stop Supermarket



Phoenix JT3100T Digital Terrestrial Receiver

- Digital Audio Output (S/PDIF)
- Dolby Digital
- Wide Screen (16:9) Hot-Key
- S-VHS, CVBS & RGB Video Outputs



- Super-Fast Channel Scan
- Electronic Program Guide
- Channel Rename Function
- Software Upgradeable

\$180/each (for 6 unit)

\$160/each (for 30 units)

Magix 8800 Receiver (Made in Korea)

\$220

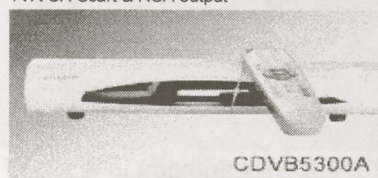
Coship digital receiver (Iredto V2.09 CAM embedded)

\$220

SPACE 5300A CI Receiver (Two Common Interface Slots)

Auto PID correction
C & Ku band input
PAL/NTSC auto converter
5000 channels
Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA output

\$180



CDVB5300A

SPACE 2300 digital receiver

Auto PID correction
C & Ku band input
PAL/NTSC auto converter
5000 channels
Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA output

\$140

NextWave 3220 FTA digital receiver (Made in Korea)

C & Ku band input, PAL/NTSC auto converter
5000 channels Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA outputs

\$160

NextWave 3220C digital receiver (Two common interface slots) (Made in Korea)

C & Ku band input
High symbol rate >45,000
PAL/NTSC auto converter
5000 channels Picture in picture EPG
DiSEqC1.0/1.2 control
TV/VCR Scart & RCA outputs

\$220

Iredto 2.06B CAM	\$140	Zinwell C band LNBF	\$35
Viaccess CAM	\$140	Zinwell 10.70/11.3	\$25
65cm offset dish	\$27	/Universal Ku band LNBF	
75cm offset dish	\$40	MTI C band LNBF	\$35
Superjack DiSEqC 1.2 motor	\$95	One cable solution C-band LNBF	\$50
Universal Mount	\$15	Satellite finder	\$30
2.1m mesh dish	\$120	Silver Card (10/bag)	\$125
2.3m mesh dish (motorized)	\$170	Gold Card (10/bag)	\$85
2.4m heavy duty mesh dish (motorized)	\$210	RG6 Stripper	\$20
1.8m 6 panel dish	\$130	RG6/11 Crimper	\$30
RG 6 Dual cable (305m/roll)	\$75	Angle meter (made in USA)	\$85
		Compass	\$30

Optus C1 Aurora Kit Coship digital receiver

(Iredto cam embedded)
11.3 GHz/Universal Ku
LNBF, 75cm dish, Mount
bracket.

\$315/set

+Aurora card \$75

LBC, ART, Al Jazeera Kit Coship digital receiver

(Iredto cam embedded)
C-band LNBF, 2.3m
Mesh dish.

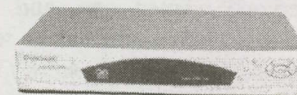
\$435/set

+Subscription fee
\$20/month*

Free to air kit (for NSS 6, Optus B3)

Including dish, LNBF,
digital receiver, etc.

**Start from
\$250/set**



Changhong 1000 Digital Receiver Aston 1.05 Cam embedded

Best Value For Indian & French
(C-band on Asiasat 3s & Ku
band on Intelsat 701)
C & Ku band input, 2000
Channels.

\$170

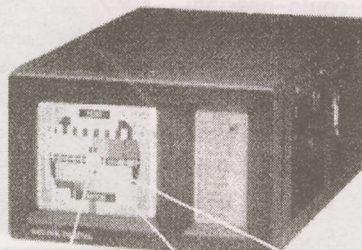
(Top quality) TESTING EQUIPMENT SPECIAL (made in Sweden)

Satlook MARK III \$950

- 4.5" B/W monitor for PAL/NTSC/SECAM
- Satellite-receiver 920-2150 MHz
- Tunable sound 5.5-8.5 MHz
- Spectrum analyzer
- Expanded spectrum
- LNB voltage 13/18 V
- 22 kHz tone switch
- KU- and C-band (normal/inverted video)
- Built in rechargeable battery
- Only 3.5 kg complete with carrying-case

Satlook Digital NIT \$1550

We are pleased to introduce our new SATLOOK Digital NIT. NIT stands for NETWORK INFORMATION TABLE, which today almost all DVB-satellites transmit as standard. The NIT contains information about the Satellite and TV/Radio-channels. It's very easy to identify a Satellite when reading out this information. The different TV/Radio-channels on a transponder can also be read-out.



Satlook COMBO \$2550

- Input frequency: 2-900 MHz and 920-2150 MHz
- 4.5" B/W Monitor for PAL/NTSC/SECAM
- Lots of memory positions for spectrum pictures
- RS232 for PC-connection
- Built in, rechargeable battery. Only 7kg complete with carrying case
- TV-PART:**
 - 2-900 MHz spectrum analyzer
 - Presents full range spectrum (and expanded)
 - Very high accuracy, $\pm 1\text{dB}$ (at 20°C)
- SAT-part:**
 - 920-2150MHz spectrum analyzer. Digital BER, QPSK and S/N-ratio
 - Satellite-ID and TV/Radio-channel info (NIT)
 - Tunable audio bandwidth 5.5-8.5MHz
 - LNB voltage 13/18V, 22kHz tone switch
 - DiSEqC according to level 1.0, 1.1, 1.2
 - KU- and C-band (normal/inverted video)

Full range of C/Ku band satellite dish - panel & mesh, prime & offset, from 45cm to 4.5m

Full range of Zinwell, MTI C/Ku LNBF - Dual output, one cable solution, C/Ku combination

Full range of actuator - From 12" light to 36" heavy duty

DiSEqC 1.2 Positioner & SupperJack EZ2000 Positioner

2.4 GHz AV sender and Remote extender

RG6 Cable and Motor cable

Full range of satellite accessories



THIS MONTH SPECIAL



SPACE 2300A FTA Digital Receiver \$1300/(10 units)

Magix 8800 Digital Receiver \$1200/(6 units)

Phoenix 2.3m Mesh dish \$1650/(pallet of 10 sets)

Zinwell LNBF 15K C-band LNBF \$648/(box of 24 units)

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Website: www.phoenixsatellite.com.au

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E-mail: sales@phoenixsatellite.com.au

Adios to the past

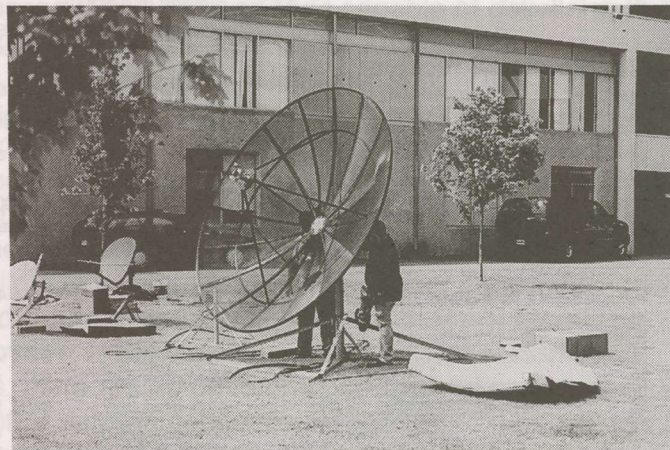
C-band in America? Even the shouting is over!

BUD. BigUglyDish.

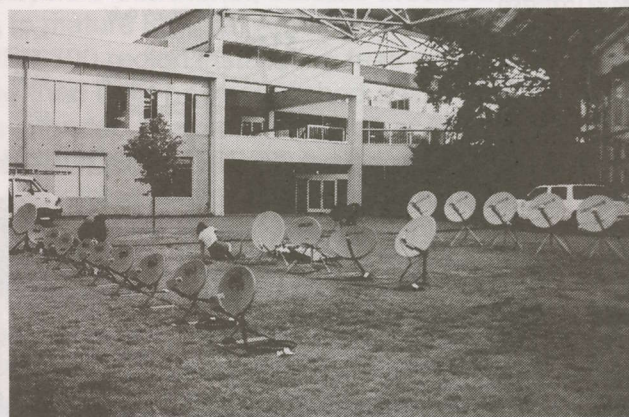
As many as 3,000,000 were sold between 1979 and 1986, very few past mid-year of '86. What they did, when circumstances permitted, is legendary. The stuff of fables and myths.

Hundreds of FTA channels, analogue of course in that era, spread over more than a dozen satellites. And when you tired of watching TV with a BUD you could eavesdrop on private telephone conversations, listen to a radio station from Alaska or Mexico, watch celebrity folks 'warming up' for a real TV telecast, even watch Presidential candidates in rehearsal for important appearances a continent away. BUDs were the rage, everyone wanted one, and if you were unfortunate enough to live where there was no readily available cable TV, well, it turned out you were *more fortunate* than your friends who *did have* cable. Because they had to *pay* for their HBO or ESPN and for you, *it was all free*. Until early 1986. And that was when Videocipher II scrambling was deployed, first by HBO and then rapidly over 18 months by more than 200 other transponder-channels. The free ride was over, 'satellite piracy' was gone. It would turn out to be an era when all of the common sense rules of programming access were dismissed, and if you had a BUD, you were in TV heaven.

The participants in BUD were folks living in a TV never-never land; anything, everything you could possibly want to see was right there at a turn on a dial, push of a button. If it seemed too good to be true, well, it was, after 1986 and scrambling. Hundreds, thousands made millions with BUD. An equal number lost millions. Scientific Atlanta lost money; Heathkit lost money, Radio Shack lost money. The bigger you were going in, the greater the loss - or so it



C-Band is dead. One 3.7-4.2 GHz antenna in a sea of 12 GHz (Ku-band) antennas at Memphis show indicates how C-band is gone and buried in the USA.



Satellite TV has gone mainstream to become a part of everyday life no matter where you might be. "Jet Blue" airline provides seat-back individual viewer screen access to 20 channels (CNN, Fox News for example) using DirecTV Ku band phased antenna arrays built into roofline of airliners. "Mobile in motion" TV reception, plus two-way Internet access, is latest "gee whiz" technology offered to Americans who continue to absorb new technology at an alarming rate. "500 TV channels in your car plus Internet" retails installed in a vehicle for under \$2,500 US.

An advertisement for JetBlue satellite TV service. It features the DirecTV logo and the Fox InFlight logo. The text reads: "Without you, we'd just be flying a bunch of TVs around the country. We like you, too." The JetBlue logo is in the bottom right corner.

An advertisement for TracVision satellite TV service. It features a car with a satellite dish on the roof. The text reads: "Live Satellite TV in your car. TRACVISION. 1-877-288-2126".



First users - last users of C-band were bars and clubs where sports fans and others gathered to partake of entertainment. "Satellite T.V." (sic) was password to "We have special TV service available" as a magnet to attract customers. There are two non-functioning dishes on the roof of this Los Angeles building which clings to the past against all odds that anyone passing by is even interested in their "big screen" TV offerings.

seemed. Folks who had no assets, faltering resources, became millionaires in a year or less, selling and installing \$5,000 - \$10,000 dish systems which typically cost them half that to buy. And the paradox - this was a 'rural' business; the more remote you were, the further you were from a town or community with cable or live terrestrial TV, the better you did. C-band dealers went from rags to riches in weeks of being introduced to the concept, often selling and installing as many as five home terminal systems each week, banking tens of thousands of profit dollars in the process (see 'Sam Conwell', p. 10, here).

TVRO (BUDs) was a passion, a rapid entry into big dollars with minimal skills. By 1982 it had escaped from North America and was spreading world-wide as industry legends such as Bob Behar of Hero Communications concentrated on introducing BUD to every nook and cranny of the world. SatFACTS writer Tim Alderman brought first-time American TV (CNN) to the famous Moscow 'President Hotel' while Behar was installing private systems for the King of Saudi Arabia and Fernando Marcos, then-leader of the Philippines. When it seems too good to be true, it often is. And was. Nothing like the 1979 - 1986 era has ever previously appeared in the communications world, and it is unlikely it will ever repeat. But for those who participated, it was an all-time high.

C-band TVRO in North America (and the world) faltered and failed as Videocipher scrambling appeared. USA (+ Canada) sales ran into a stone wall - falling from a high of



Change in direction. This southern California bar installed 3.7m dish in 1982 to display sports. Present owner caters to Mexican immigrant/workers, keeps dish functional to access Mexican Morelos C-band services to provide a 'home country' connection for patrons.



Commercial use of C-band has never been higher as transponder pricing has tumbled allowing users to transmit 30 minute self-created programming for as little as US\$50. Office buildings frequently sprout sizeable C-band dishes making it possible for tenants to access both up and downlink services almost as easily as one would use a telephone.



Sole survivor; 'Sami' dish (manufactured in Arkansas, of course!) in 6 to 12 foot sizes, still sells well for export (Mexico remains an active C-band market).

75,000 terminals each month to fewer than 5,000 within six months. It all happened so fast, with little warning, that warehouses clogged with equipment produced prior to the demise took several years to clear out, even at bargain-basement pricing.

Trade shows, held three times each year between 1979 and 1985, suddenly became non-events and quickly stopped. SPACE, the North American trade association formed in 1980 to promote C-band "direct" reception systems, hung on for a few additional years but by 1990 was reduced to one annual show which quickly dropped in attendance. The last "satellite installer" trade show held, 1997, was so poorly attended that both trade shows and sponsor SBCA would shortly disappear into history; a significant drop from the 15,000 attendee shows of the middle 80s. Hundreds of firms, created when sales were through-the-roof, simply disappeared.

2005. Eight years have lapsed from the last "industry trade show". Satellite Expo '05, Memphis, Tennessee, would attempt to revive the excitement and passion of the 80s. The show's promoter, as it turns out, has a tenuous grasp of TVRO history, but hopes to revive a faltering industry by creating a gathering spot for those who still function in the industry. They are, it appears, few and sceptical that a trade show can bring back that missing element; *enthusiasm*.

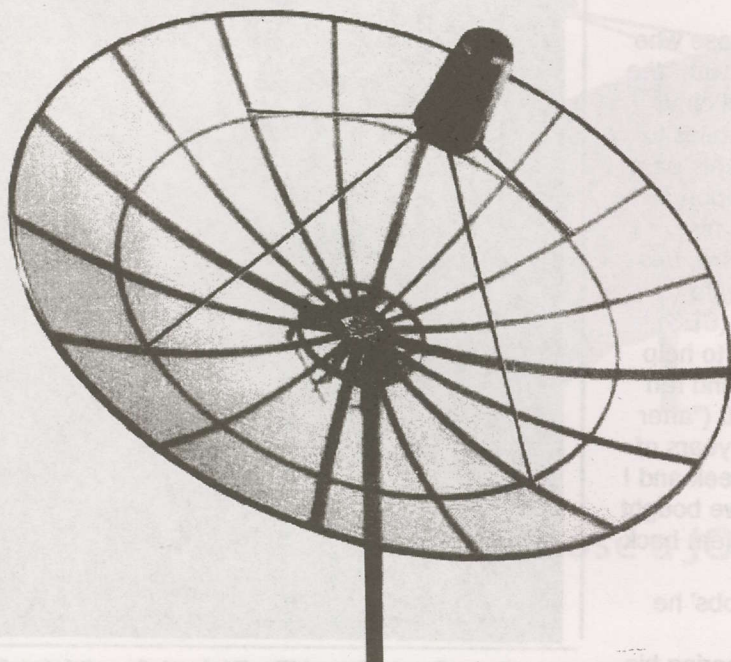
What drove C-band-direct in the early 80s was access; the ability to take a dish as small as 2 metres in size and tune-in,



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Last of a dying breed

True C-band pioneers, the guys (and gals) who launched the American home dish world in the period 1979 - 1982 or so, were a cantankerous lot. They lived in a period of development which will never again repeat, and often profited so wildly they never had to work again when the C-band world imploded in 1986. But those were such innovative, truly fun days, that many hang on hoping the dead will somehow, miraculously, pop back to life.

Sam Conwell (Chantilly, Virginia) is one of those who "just can't let go" of the memories associated with "the best six years of my life". Now largely wheel chair restricted, Conwell travelled more than 800 miles to the Memphis trade show hoping to rediscover his past.

"I saw Coop on the CBS Evening News report in October 1978" he relates "and then read his companion article in TV Guide. I instantly knew, *this* was what I wanted to do for the rest of my life".

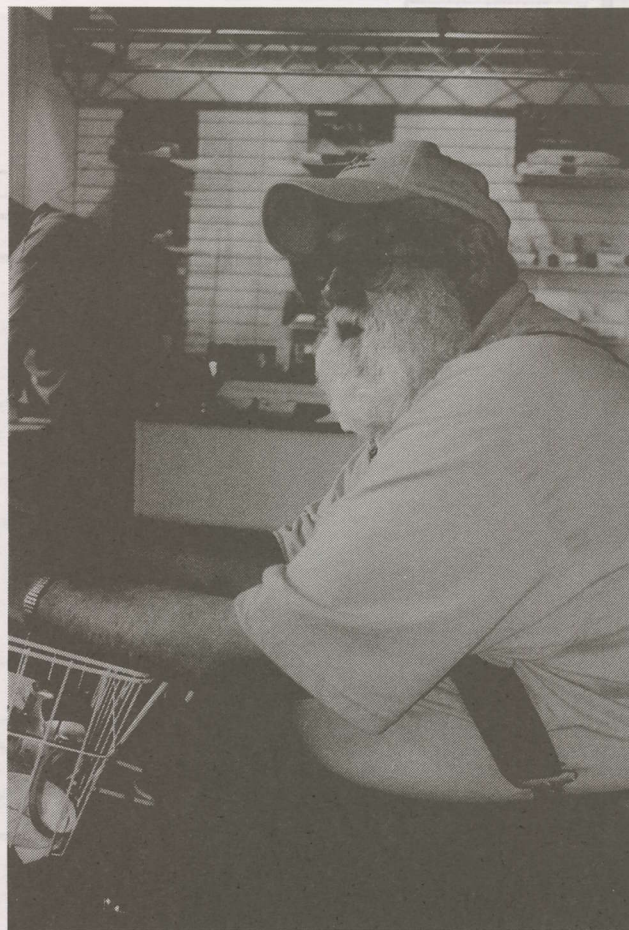
Conwell founded a satellite installation firm (SES), attended the early trade shows, volunteered to help launch the new trade association (SPACE) and ran from install job to install job pocketing \$5,000 ("after expenses") for each install he did in the first years of TVRO. "Sometimes I did as many as five a week and I beat a steady track down to Arkansas where we bought our dishes, mounts, and electronics hauling them back home on makeshift trailers."

Like any true pioneer, Conwell has some 'jobs' he delights in remembering.

Willard J. Marriott, scion of the hotel chain bearing his name, married to a Mormon lady who wanted to be able to watch the Tabernacle Choir live from Salt Lake City, is one of those. "His suburban (Washington, DC) home was in an impossible spot for C-band, buried in 100 foot trees. But four houses down the street, a neighbour had a clean look at the orbit belt. We visited with the neighbour, then with the folks living in the three houses between the two, and worked out a deal. The 13 footer went in and cables were buried across all four properties to reach Marriott's home. Along the way, subject to which satellite W.J. had selected with his motor drive, each of the homes had their own individual receivers 'tapped' into the buried line - kind of an early version of SMATV. When the Marriotts were out of town, which was often, the dish controller went to another of the homes on a share and share alike rotating basis. I had three competitors bidding on this job, not one of them could figure out how to install the controller so it could be moved from house to house. I did and got the job for \$69,000. I never left home unless I was going to double my money and this one was no exception."

When C-band collapsed as scrambling hit in 1986, Conwell shifted to commercial work. His love of gadgets created the 'Bo-Dickey' cable prep tool which provides him with an excuse to continue his love affair with satellites. "Charlie Ergen (Dish TV Network) saw this at a trade show and instantly bought \$20,000 worth for his installers. That put me on the map!"

Conwell holds no illusion that C-band will one day revive, but hangs out on the fringes, "just in case something good happens".

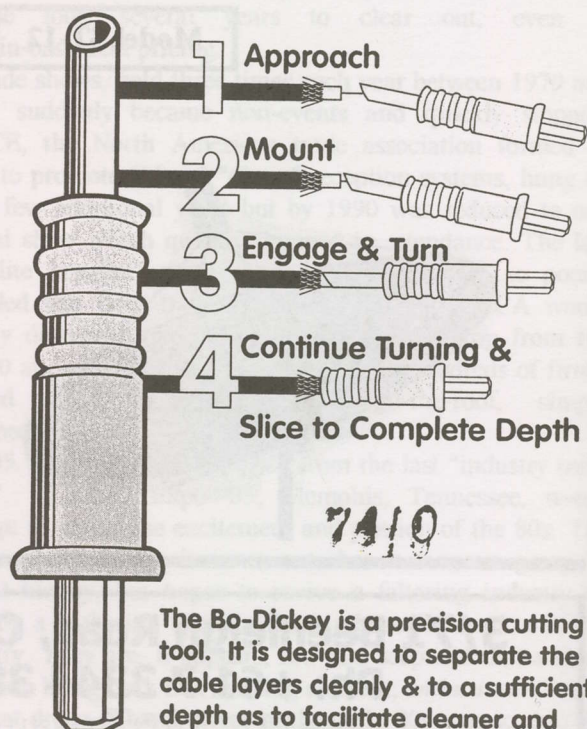


Sam Conwell and 'Bo-Dickey'; "can't let go".



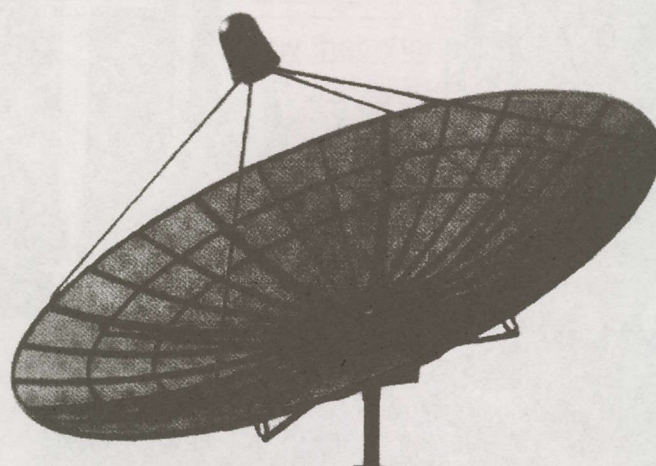
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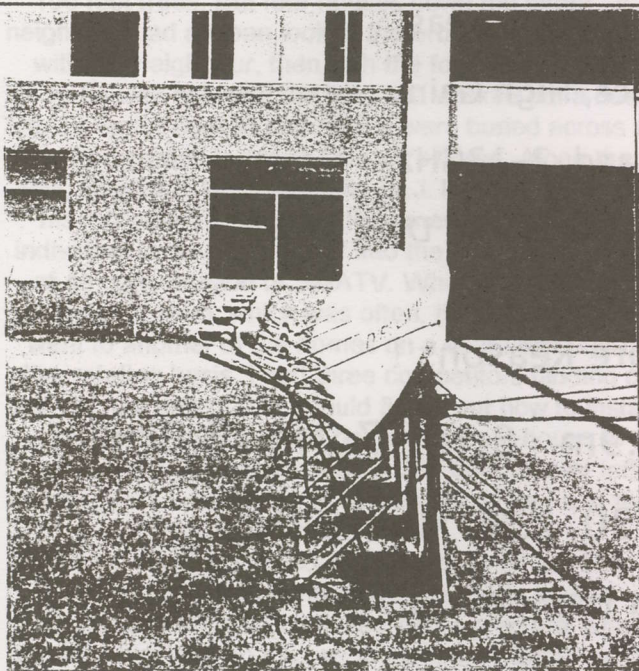
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Opening breakfast session June 23rd featured Winegard's Bob Howell (a well known American antenna brand) presentation offering overview of where "antenna installation industry is headed". Session meal was hosted by GlobeCast World TV, a name we all know, but Howell's message would have seemed strange to most SatFACTS readers, focusing solely on "the need for skilled HDTV (terrestrial) antenna installers". Number one 'antenna challenge' according to Howell? "Multipath distortion of ATSC digital signals", leading of course to need to replace existing 'analogue terrestrial aerials with digital models'; preferably Winegard!



Very competitive. 'Broadband' Ku links for Internet has many North American players including Direcway which planted row (5) of two-way (up and downlink) dishes in antenna yard. One trade show goer caution - "standing in front of these antennas could be injurious to your health!" Think microwave ovens.

at will, hundreds of channels, feeds, services. By 1985, a complete C-band system could be installed for under \$1,000 (although more versatile, functional systems cost as much as \$5,000, installed). And that is what created a panic in the cable TV industry in North America - people who had a choice between cable service and C-band dish were selecting the latter. There was a flaw in the C-band option - the programming being accessed was largely cable TV programming, intended for cable subscribers through cable distribution firms. When (not if) it was scrambled, the tide would (and did) turn, away from C-band-direct.

It all began in October 1979 when the FCC ruled, in response to hundreds of formal requests, that C-band terminals be allowed without a license; prior to that time, a complicated, time consuming and expensive licensing procedure was required (for a 'legal' dish - already in 1979 there were thousands of *unlicensed* terminals). With licensing gone, it became a wide open market allowing 'respectable' firms such as Channel Master, Panasonic, Uniden, Drake and even Sony to create hardware for 'C-band direct'. But there was that fatal flaw - the programming was FTA (free to air) *only* because an economical, dependable scrambling system had not yet evolved. This FTA situation continued through early 1986, allowing aggressive sellers to roll out more than 3,000,000 home terminals at numbers approaching 75,000 each month. It was a house of cards doomed to fail and with each passing month prior to scrambling's launch, the cable

Release dates:

15 August: "TVRO History" (the CSD + CATJ collection covering 1974 - 1987); as it happened

15 September: (DVD pre-release version): "VIDEO PIRATES" (Coop's tell-all book that leaves no dish unturned!)

1 November: (DVD pre-release version): "Television: The technology that changed our lives"

EXCERPT: "TELEVISION: The technology that changed our lives"

... ABC's World News Tonight was a new concept in 1980, multiple news anchors spread throughout the USA (New York City, Washington, DC and Chicago). ABC believed they could build a bigger audience by spreading the anchors around, switching in the appropriate one 'live' for each news story. With headquarters in New York, the DC connection was via coaxial cable. But Max Robinson in Chicago was fed to New York via satellite. So there, five nights per week, from 15 to 30 minutes before WNT, through the second run, was a live studio shot from satellite sitting on C-band satellite. Often it was boring stuff - guys and gals moving around the Chicago studio checking gear, someone 'sitting in' for Max so the camera angles could be rehearsed. And then - *and then* - the grand entrance.

Max would arrive in a flurry of excitement. Make that a 'flurry of anticipation'. To say he was a man of widely varying moods would be an understatement. The crew, especially those who's duty it was to tend to 'the star', were obviously nervous - before he arrived and until the calibre of his 'mood' was evident for that particular day. The makeup person, almost always a Caucasian lady in the early days, was the most nervous of all because she had to actually be close to him to do her thing.

Max would arrive with a large glass tumbler filled with a deep red liquid in his hand. Some days he managed to set the tumbler down on his set news desk without incident. Other days he tipped it over sending liquid all over the desk. Which of course drenched his news copy sheets previously laid out for his study.

This would be an appropriate point to note that because this satellite feed was (1) live, (2) open as in not encrypted, for 'The Max Hour' (which often ran to closer to two hours) a not small group of satellite junkies spread throughout North America became enamoured with watching the entire telecast. It became so well known that a bar in South Carolina, with a satellite dish, posted a marquee announcing: "Max R drunk and Live Here Nightly 5:30PM". One drunk attracted lots of other drunks and in South Carolina during 1980-1981, the concept of a 'black TV news anchor' had not quite reached the top ten in public popularity. So here you would find bars packed with dozens of typically male southern white guys shouting at the TV screen each time Max did something awkward or 'off color'.

The red liquid was tomato juice, but it was red only in color. Mostly, it was vodka. Max's Chicago based reporting consumed perhaps seven minutes out of the 30 minute WNT newscast, typically in two 'bites'. But he was made to sit there, on camera and on satellite, through the full 30 minutes (which was repeated a second time for the western coast USA), ever vigilant in case he was called upon.

Enter Max to the news set with a nearly full glass. As he walked to center stage, he typically found someone to say something really nasty to as he approached the news desk. It could be a lighting guy, and audio gal or his perennial favorite target - the blond haired white makeup lady, who you usually saw cowering off to the side of the camera view. The crew would judge how 'their day' was going to proceed based upon the voracity of his first verbal assault. The second judgement came as he attempted to set down the tumbler - did he spill it?

I do not know which 'worker's union' she belonged to but this was perhaps the only TV newscaster set in the world where a lady with a metal pail, a mop, and decorated with clean-up rags tucked into her belt was a part of the regular floor crew. Her assignment was to 'stand by' to clean up the news desk set region when - seldom if - the contents of the tumbler carried by Max left the glass.

Max of course had been drinking before he arrived on the set. Some days he arrived only minutes (down to seconds) before he was due on the air. Those were the most entertaining days - he would be surrounded by staff people as one removed his street jacket, another tried to adjust his tie and slide on his on-air suit coat. The floor director was trying to give him a 'time briefing' ("*We go in at 5.40 and come out at 8.10, the first time...*") while someone in the control booth was speaking at (not to) Max through a speaker system advising when film would run and what the 'in cue and outcues' would be. Somehow in all of this melee, the magic glass floated from one hand to another while the wardrobe lady tried to get his on-air jacket on the man. Just on the edge of the fixed camera shot, you could see the blond haired makeup lady who was waiting to apply his on-air face as he finally sat down and the crowd dispersed.

Down in South Carolina and at hundreds of other locations, bar patrons were rolling on the floor in laughter - and ordering another 'Max Robinson Special'. And of course shouting things at the TV screen which today would be classified as 'politically incorrect', about the black news anchor.

Over time Max seemed to become aware that he had a secondary audience - people looking at him even when he was not on WNT. It was hardly a secret - my *Coop's Satellite Digest* did a couple of lengthy reports, with photos shot off the screen, so everyone in the satellite biz knew the story. And many guys and gals with early Betamax gear recorded dozens of hours of Max for posterity; some of that tape still floats around amongst satellite enthusiasts. At every 80's satellite convention or conference there was always a Max Robinson side-show where attendees shared their 'best of Max' tapes.

-TELEVISION: The Technology - continues on page 30



(Left) "Haven't used it in - let me see - 19 years?" 2.4m motor driven antenna system near Bakersfield, California was one of twelve SatFACTS spotted during a ten minute drive around community of 300,000 folks, just beyond where the cable lines currently reach. Not visible, Dish Network Ku band antenna. The owner when questioned offered, "Bump my head on the damned thing every time I mow the lawn. Know anyone who will get it out of here???" (Right) Depending upon how fast trees grow, this 12 footer has been out of service maybe twenty years (it points directly into the tree several times its height - the tree obviously was not there when 'the dish was planted'). In much of California, the dry weather and non-polluted air environment means BUDs twenty-plus years old are basically still sound and probably functional. Alas, they are orphans, monuments to a by-gone era.



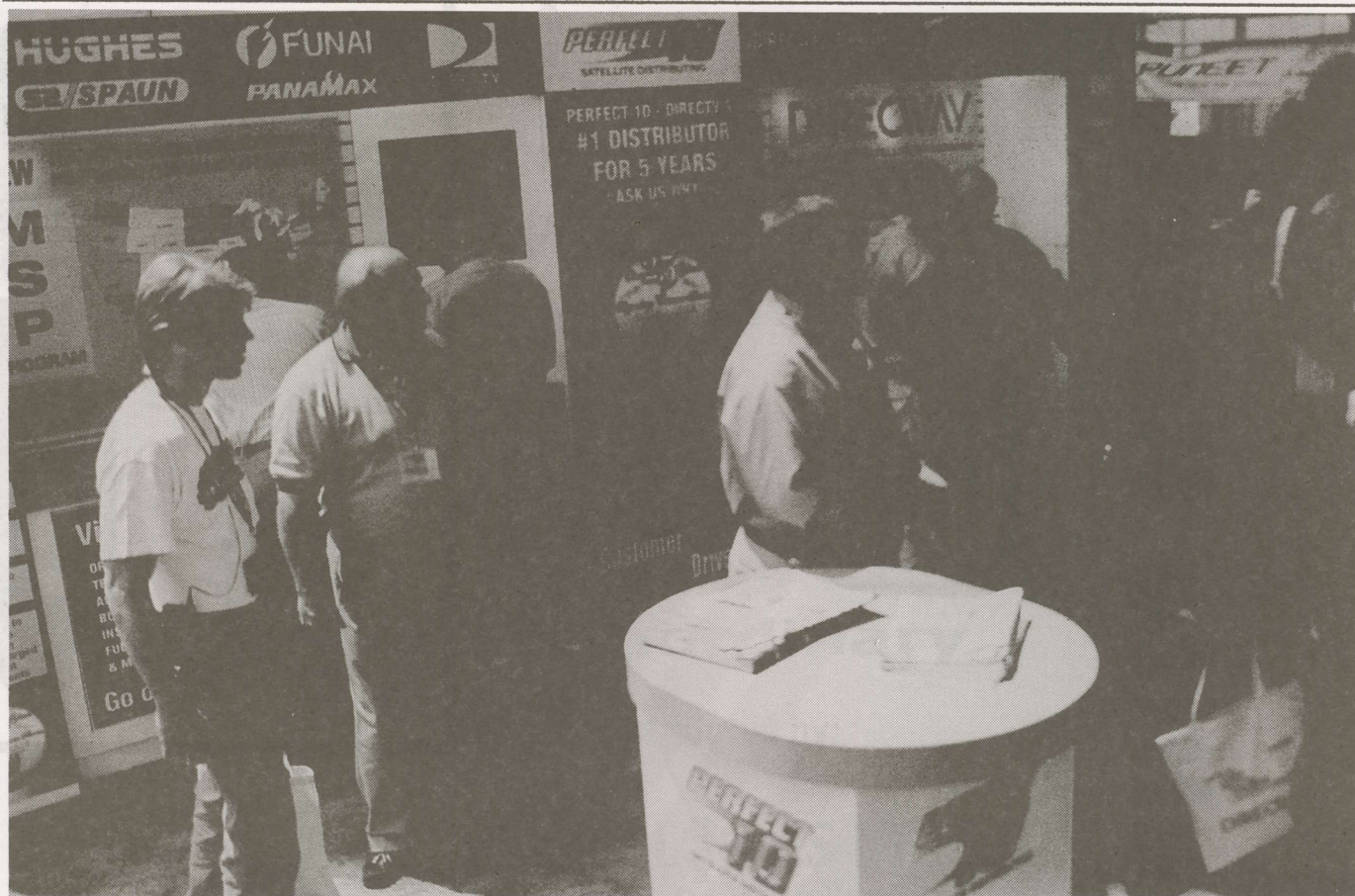
Replacement. DirecTV (or competitor Dish Network) use multiple satellites to deliver hundreds of programme channels to quasi-bolic dishes with three or more LNBs fitted. 'Local into local' is a major marketing tool for satellite providers.

industry became increasingly paranoid as they disconnected thousands of homes each week from their cable lines - folks buying their own home dish systems. A C-band-direct trade association, SPACE (Society [for] Private And Commercial Earth [terminals]) lobbied the FCC and the (US) Congress to create special laws that would allow the service to continue, even after scrambling. Cable would have none of that and in the end, the cable industry won the day leaving several million C-band terminals essentially useless (1).

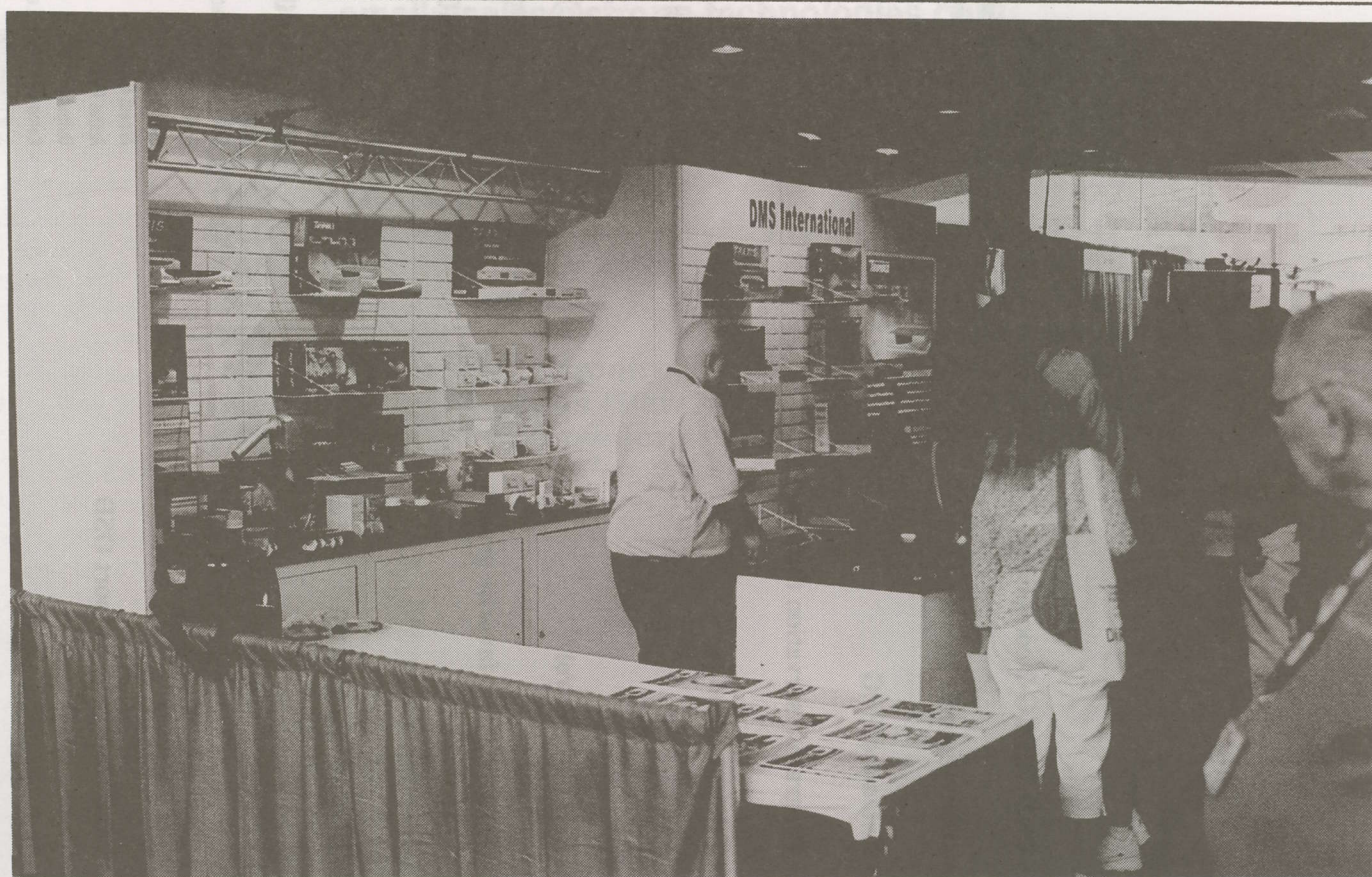
Think of the best day you ever had in your life and now extend that over the period 1979 to 1986. Now recall your worst-ever day and position it immediately following the last 'best-ever' day. That's was C-band-direct's almost overnight final chapter. Thousands of Sam Conwells (see p. 10, here) never saw the approaching death train until it hit them.

Now, 19 years hence, those few who somehow escaped the effects of the crash are making the best out of an entirely different satellite world. C-band? Not any more. There are (literally) millions of unused dishes, the majority motor drive

1/ Under threat of anti-cable laws, C-band direct subscriptions were forced on the cable industry but the commercial terms of the offers made it impossible for a home where cable was 'available' to access satellite channels even if they were willing to pay for them.



Booth displays. 'Perfect-10' distributorship, Little Rock (Arkansas) dates back to the 1979 launch of the C-band industry. And while it still sells hardware, parts and tools to dealers, most of its volume relates to installers who specialise in such sales activity as DirecWay or DirecTV (for which their clients have been the largest installer group for five years). (Below) FTA hardware is speciality of DMS International with complete Ku-band FTA packages (receiver, LNB, antenna) costing dealers US\$85 (that is not a typographical error!).





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- Picture-in-graphics
- Automatic NIT scan
- Multi language support OSD
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IF SECTION

Input Frequency Range : 950 - 2150 MHz
 Input Frequency Level : -65 dBm ~ -25 dBm
 Noise Figure : 12 dB Max.
 Input Impedance : 75 ohm
 I.F. Bandwidth : 36 MHz
 Input Return Loss : -8 dBm
 Tuning Step Size : 125 KHz
 Demodulation : Shaped QPSK
 Symbol Rate : 2-45 Mbauds
 FEC Rates : 1/2, 2/3, 3/4, 5/6, 7/8, AUTO

LNB SECTION

Connector : F-Type - Loop-through
 Power : 400 mA Max.
 Polarization : Horizontal : DC 16-19 V
 Vertical : DC 11-14 V

Band (Hi/Low) Selection : 22 KHz On/Off
 DiSEqC 1.2 USALS : 64 Universal LNB Control

SYSTEM RESOURCES

Processor : 32 bit (80 MHz)
 SDRAM : 8 Mbyte
 FLASH : 2 Mbyte
 EEPROM : 32 Kbyte

VIDEO SECTION

Decoding : MPEG-2 & MPEG-1 Compatible
 Compression Technique : Main Profile, Main level
 Format : PAL (NTSC)
 Frame Rate : 25 (30) Hz
 Aspect Ratio : 4:3, 16:9
 Active Pixel : 720 x 576, 720 x 480
 Output Impedance : 75 ohm
 Composite Output Level : 1Vp-p±0.07Vp-p (75 ohm load)
 S/N Unweighted : 57 dB Min.
 Frequency Response : 3 dB Max. (0.5-5.0 MHz)
 Data Rate : Up to 15 Mb/s

AUDIO SECTION

Compression Technique : MPEG-1, 2 Layer 1 & 2
 Sound Mode : Dual (Main/Sub), Stereo
 Frequency Response : 2.0 dB - 20 Hz to 20 KHz
 Output Impedance : 600 ohm unbalanced
 Total Harmonic Distortion : 1% Max. - 40 Hz ~ 20 KHz

CONNECTORS SECTION

A/V Out : RCA x 3
 RF Out : IEC Male
 Aerial In : IEC Female
 Service Port : RS-232C (115 Kbps Max.)

MODULATOR SECTION

Output : PAL G/I/K CH

POWER SUPPLY

AC 80-264 V, 47-63 Hz, 40W Max.

DIMENSIONS

260 (W) x 240 (D) x 58 (H) mm

: 21-69 UHF

Power Consumption : 30W Max.



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(ex-X-Box)

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TAS	Extra Channels	03-6334-8255
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WA	Norsat	08-9451-8300
NT	Johnny's Electronics	08-8972-1102
NZ	Hills Industries (New Zealand)	+64-9-262-3052
FIJI	Satshek Communication	+679-330-7933



Picture this. 50cm Ku dish mounted directly below a common household variety shower head. Reception perfect - turn on the sprinkler and water douses the dish, LNB. Reception quits. Turn water off, spray dish surface and LNB feed cover with 'magic solution' and - turn shower head douser back on. Miraculously, the reception does not falter - the 'Rain Fade Solution'. Sold by the spray can, quart (American version of litre) and gallon container (US\$99 for a gallon). "Charge your customers \$20 and give them a squirt!" Big-time 'profits' in the American satellite world. Ah yes - the life of a 'satellite professional'.



Looks good but last used in 1995 - disconnected the day DirecTV was installed. "We would like to get it out of the yard" was response to request to photograph the installation. How many like this? Probably more than 2,000,000 nation-wide.

equipped, sitting idle (page 14). The receivers would be analogue and of little value and as SatFACTS learned by knocking on doors where dishes were seen sitting in yards, anyone offering to 'take them away' would be rewarded with gracious thanks and a cup of coffee.

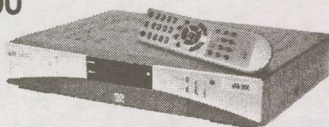
What remains is a business trying to find a centre, a reason for existing beyond the \$100 install fees offered by Ku band operators DirecTV and Dish. Ku-band FTA is abundant but mostly ethnic - not unlike Australia and New Zealand. Recently, packages of programming catering to specific viewer groups have appeared; Sky Angel (www.skyangel.com) is one of these, offering 20 channels of religion and family based values. At distributors such as DMS International, 'installing dealers' can acquire all three major items (LNBF, dish and digital receiver) for under \$100. What they can onsell the package for, installed, is a function of their own creativity but under no circumstances does it approach the runaway \$5,000 profits enjoyed by pioneers such as Sam Conwell during the C-band-direct days.

So it comes down to trying to identify 'niche markets', preferably in the 'brand-new, leading edge' technology region where profits are still possible. DirecWay (VSAT) is one such opportunity; 'WildBlue' is another internet related dish supported service opportunity. Both require advanced skills which translates to attending training classes, passing an exam and receiving certification before you are allowed to install two-way systems. SkyWay U.S.A. (Lexington,

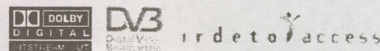
homecast eM200



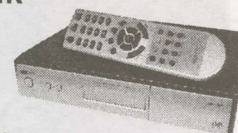
Digital **Satellite** Receiver with 2 x CI slots.
and Irdeto 2.09 CI cam.



homecast eM150IR



Compact embedded Irdeto
Satellite receiver with 1 card slot.



wavelength DSR-103



FTA Compact Digital **Satellite** Receiver
With Modulator & SPDIF Coaxial output
Disqec1.2 and loop through connection.

wavelength DTR-279

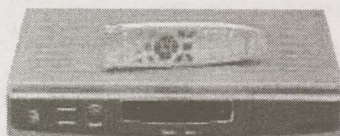


FTA Compact Digital **Terrestrial** Receiver
SD Standard Definition Digital Terrestrial Receiver with
modulator, Wide Hot Key, Teletext & Logical Channel

homecast HT5000



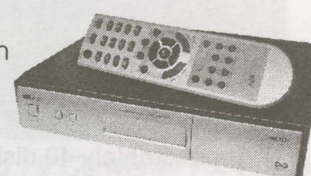
HD High Definition
Digital **Terrestrial**
Receiver with DVI
output.



homecast eM1150



SD Standard Definition
Digital **Terrestrial**
Receiver with
modulator.



Homecast Australia site for terrestrial receivers is at <http://www.homecast.net.au>

SATELLITE TV IS A GREAT HOBBY - Let's not forget that!

Since 1976 we've been involved in satellite TV. A hobby in those early days, our interest led to establishment of a business in 1981 that has introduced thousands of people to the exciting world of satellite TV. We produced our first international satellite receiver kit in 1986, and the first DIY home satellite system in Australia back in the early days of 1990.

Along the way we have found that above all else, customer support is critical. If you look around the industry, you'll soon sort out those vendors who operate on a strictly commercial basis, and, those who really have your real hobby interests at heart.

That's why we have made it our priority to give you all of the information to help you make your hobby a success. So if you are contemplating Satellite TV as a hobby, give us a call; we'll help get you off on the best track. Who knows - you might even become a part of this growing industry!! You can count on our decades of experience to provide you with the best "right" solution at an affordable price.

AV-COMM Pty Ltd

P.O. Box 225 Brookvale NSW 2100 AUSTRALIA

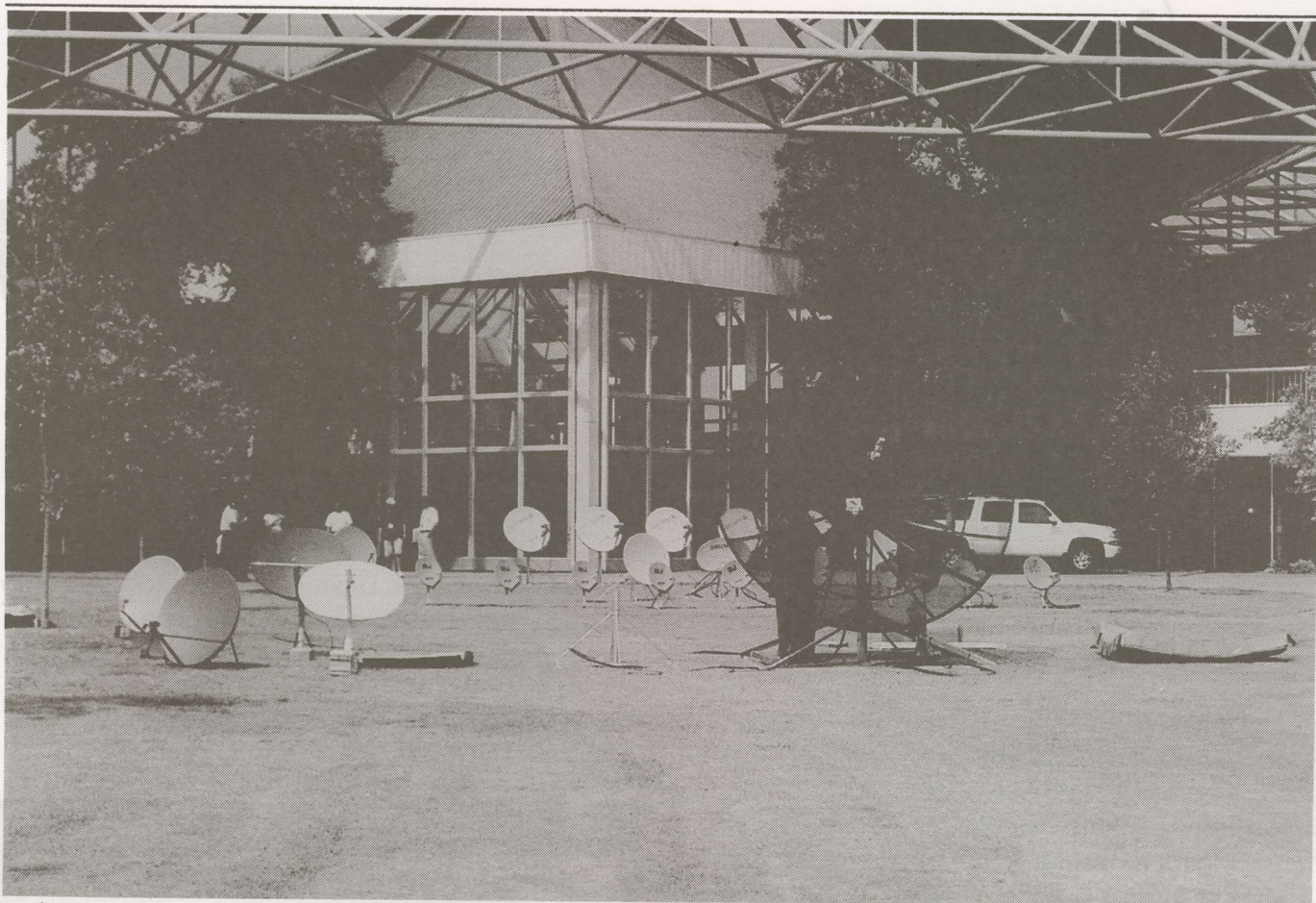
Tel 61-2-9939 4377 Fax 61-2-9939 4376 or, visit our website at

<http://www.avcomm.com.au>

Email cgarry@avcomm.com.au

You are welcome to also visit our showroom (24/9 Powell's Rd, Brookvale NSW),
join our E-mail newsletter service (addme@avcomm.com.au)

(Av-Comm Pty Ltd ACN 004 174 478)



Approximately 40 dishes (not all visible here) were in the 'antenna lot' for the Memphis Satellite Expo '05. The emphasis was on training sessions, 106 individual booths were set aside for displays (not all were filled). Training sessions required payment of extra fees although some sessions were included in the overall registration fee (\$100 region) for all three days.

Kentucky) calls itself "America's Rural Broadband Provider" with (US)\$139 equipment installation charge and internet for as low as \$29.95 monthly. Firms such as DirecWay, WildBlue and SkyWay pay better than DirecTV and Dish for installs, and some offer 'monthly residuals' (the installing dealer receives a monthly cut from subscriber fees) as an incentive to keep customers pleased with the service.

Mobile Ku service is another top-end option, pioneered by RaySat (Vienna, Virginia) in 1997. Anything that 'moves' (trains, cars, trucks, aeroplanes) can now be equipped to not only receive satellite television but, with varying degrees of complexity and cost, internet connections as well.

And of course there are those firms with products that will be forgotten quickly. Satellite Skins was in Memphis displaying a weatherproof flexible 'dish cover', featuring a dish 'cosy' (think of a table cloth for your dining room, combined with an elastic perimeter that makes the installation a 'stretch and affix' operation) with a huge variety of sporting team and activity logos. Does your customer want to proudly hail America? A 'flag cover'. A football team? As their literature suggests, "Picture your customer's favourite design and logo displayed tastefully on their satellite dish" (www.satelliteskins.com).

Marketing assistance was another major exhibitor field. Homemakers Marketing offered to put equipment sellers in touch with new home owners and builders. Their literature suggested, "30% of all new homes being built will end up being subscribers to satellite TV and a percentage of these

will be located where Ku band internet is their best broadband service option." Their job? To keep track of the houses under construction, and provide you (the installing dealer) with a constant update on who they are and where they are, within your marketing area.

Multiple outlet satellite TV, either within a home or a MDU (multiple dwelling unit.) remains a massive challenge, complicated by the use of multiple satellites to deliver the hundreds of TV channels to each subscriber. Most DirecTV and Dish Ku band dishes are outfitted with multiple LNBFs and each in turn requires its own RG6 downline. In the home, with three or more LNBFs feeding the IRD, DiSEqC switches and other cleverly designed (multiswitch) automatic selection devices abound. However, the typical DirecTV and Dish homes now have 3 (3.4 in fact) STBs and each requires independent connection to any of the LNBFs. Life gets pretty complex as the channel load grows (DirecTV is promising 1,500 TV channels in 2006!).

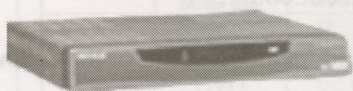
There will be a repeat: Atlanta (Georgia) April 18-22 (2006) of which 2 days are for training classes and 3 for exhibits. Most attending applauded this first-time-in-seven year effort expressing optimism that with an annual trade show (and training session), the level of professionalism demanded by today's more complex technologies will result in a better, more cohesive industry. Strangely, with the demise of C-band-direct, even dealer trade publications have disappeared leaving a vast 'information hole' which certainly needs to be filled.

WAVELENGTH communications

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Fax # +65 6334 3017
Email sales@wavelength.com.sg
Website www.satellite.com.sg

TOPFIELD



TF3000CIpro Common Interface
TF3000CIPpro CI with Positioner
TF3200IR Irdeto embedded
TF4000FI FTA
TF4000PVR with 40GB HDD
TF5000PVR with 80GB HDD

SUPERJACK

Positioner

EZ-2000
EZ-4000
EZ-6000
VBOX II DiSEqC 1.2



Also Available:

Motack
SG 2100A

DG-120
DiSEqC H-H
Mount

REALITY CAM



Compatible with:

CryptoWorks, Conax, Seca 1+2, Irdeto 1+2, Viaccess 1+2

Also available: - Irdeto CAMS - Viaccess CAMS

MTI LNBF

Single Universal Ku AP8-XT2
LO 11.3 Ku AP8-T2J
Prime Focus Ku AP8-TWF

MAXPLUS HTS 9300+ Receiver

Multi-CAS Single slot card reader
(Viaccess-2, Seca-2, Irdeto-2,
Conax)

2.4GHz A/V Sender (TR.2420)
with RC extender

Sat-Finder (SF-95)

Angle Level Meter (A100, A300)

DiSEqC 2x1, 4x1 Switches 13/17V, 0/12V, 0/22KHz Switches

Splitters (TV & Satellite)
2 way, 4 way, 6 way, 8 way

Mesh Antenna (Dynasat, PSI)

2.1m, 2.4m, 3m, 3.7m

Solid Antenna

65cm, 75cm, 90cm, 120cm,
150cm, 180cm, 240cm

Cables

RG-6, RG-11 / 100m, 305m

PC to TV Converter PX Brand

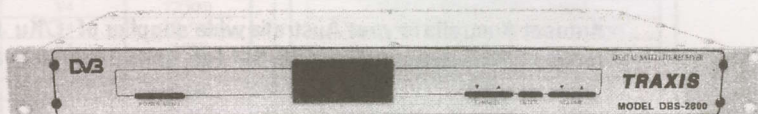


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PROFESSIONAL RACK MOUNT FTA MPEG-2 + 1 DIGITAL RECEIVER

Traxis DBS-2800 19" Rack Mount Digital Receiver - Great commercial receiver at a great price.



TRAXIS DBS-2800 19" rack mount digital receiver - ends cumbersome "consumer receiver" lash-ups in SMATV, CATV headends! Everything you would ask for in a FTA professional receiver: MPEG2 and MPEG-1 compatible, NTSC/PAL/SECAM baseband output, user settable 4:3 and 16:9 image ratios, QPSK for SCPC and MCPC, full DVB FEC rates. LNB(f) 13/18VDC (500 mA max) with short-circuit protection; DiSEqC 1.0. Mains 85 - 260VAC, 50 to 60 hertz, 21 watts maximum draw. Mono, dual mono and stereo audio recovery. L-band input 950-2150 MHz, -65 to -25 dBm, channel bandwidth 36 MHz. Data port 9 pin D-sub type using RS232 protocol, maximum data rate 57.6 Kbps. Mechanical: 480mm (wide), 245mm (deep), 41mm (high; 1 RU).

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WORLD SOURCE for DTH Broadcasters, Distributors and Dealers

How they did it in Memphis

Training sessions (for which there was a separate fee), some leading to "certification", were a major part of the Expo. Being "certified" leads to jobs from established service providers which require "proof of skills" before hiring.

Commercial DirecWay Training & Certification: \$149 (<http://www.ncc-usa.com>)

Telephone & Residential Structured Wiring Systems: \$99

WildBlue Training & Certification: \$199

ViaSat Training & Certification: \$399 (<http://www.viasat.com>)

Telkonet Sales & Installation: \$149

Additional sessions were included as a part of the entry fee (\$100 range) and included some of the following topics:

Collecting what you are owed

Introduction to VSAT Technologies

Solving the Mystery of Free to Air Systems

What is a Business Plan?

The Diversity Factor

Installation & Troubleshooting Seminar

Smart Homes Equals Smart Money

Introduction to Computer Networking

Stacked L-Band Technology

Retro-Wiring Made Easy

Multi-Room Distribution Techniques

Off-Air Reception Made Easy

Leave No Money on the Table

Techniques & Procedures for MDUs

Introduction to Home Theater and Audio Distribution

SMATV Techniques

Headends: Basic to Advanced

Get Your Share of Pre-Wire Jobs

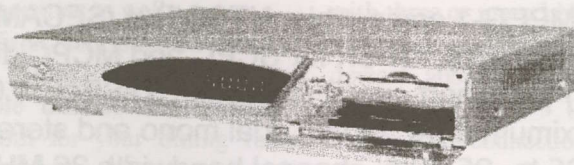
Telephone & Structured Residential Wiring

Some interesting new products we found are at www.DishStand.com, www.dishpolefins.com, www.globecastwv.com, www.itbusa.net, www.KingControls.com, www.Microyal.com, www.Perfect-10.tv, www.RaySat.com, www.SatelliteGuys.US, www.winegard.com, and www.wildblue.com.

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So you want the latest Satellite STB features and technology plus the best prices in town ?

SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 JULY, 2005

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
Them3/78.5	SkyChAust	3695/1455H	up to 3	3/4	5(,000)
	ANT Greece	3672/1478H	1 TV	3/4	13(,333)
	Korean Central	3665/1485H	1	2/3	3(,367)
	TARBS ME mux	3640/1510H	12TV, 12 radio	2/3	28(,066)
	Ch Nepal	3626/1524V	1	3/4	15(,556)
	Mahar mux	3600/1550H	11TV, 1 rad	3/4	26(,667)
	SE asia Mux	3569/1581H	2+ TV	3/4	12(,500)
	RR Sat mux	3551/1600H	8TV, 10 radio	3/4	13(,333)
	JAIN TV	3538/1612V	1TV	3/4	3(,300)
	PTV1 +	3521/1629V	1TV, 1 radio	3/4	3(,333)
InSat 2E/83	FTA Mux	3520/1630H	12TV, 12 radio	3/4	29(,800)
	TVK Cambodia	3448/1702H	1TV	1/2	6(,312)
	TARBS/Th5	3480/1670H	12 TV+radio	2/3	26(,667)
	KCTV/Korea	3424/1726H	1TV	3/4	3(,366)
	Thai Global	3425/1725V	up to 7?	2/3	27(,500)
	ETV mux	4005/1145V	6+ TV	3/4	27(,000)
	Hyd Dig 2E	3910/1240V	1	3/4	5(,000)
	Kairali TV	3699/1451V	1	3/4	3(,184)
	Indian mux	3643/1507V	3	3/4	19(,531)
	ETV Mux#2	3485/1665V	4+TV	3/4	27(,000)
NSS6/95E	Sky Bangla	3430/1720V	1TV	3/4	6(,000)
	Ant Pac (Greek)	11,104H-Australia	1 TV	3/4	2(,800)
	Guangdong TV	4075/1075H	1TV + radio	3/4	6(,000)
	Euro Bougt	4000/1150H	6TV, 21r	3/4	28(,125)
	Reuters News	3905/1245H	1TV	3/4	4(,000)
	WorldNet	3880/1270H	4+28radio	1/2	20(,400)
	APTN Asia	3799/1351H	1	3/4	5(,632)
	Reuters/Sing.	3775/1375H	1	3/4	5(,631)
	APTN Asia#2	3705/1445H	1	3/4	4(,166)
	Macau MUX	4148/1002V	5TV	3/4	11(,850)
As3S/105.5E	Dubai MUX	4020/11430V	4+ radio	3/4	27(,500)
	Fashion TV	3796/1354V	1	3/4	2(,626)
	Trace TV	3792/1358V	1	3/4	2(,400)
	BYU-TV	3767/1383V	1 + 20 audio	1/2	6(,525)
	3-ch miniMUX	3752/1398V	up to 3	3/4	5(,640)
	Saudi TV1	3660/1490V	7+ tests	3/4	27(,500)
	CETV digital	3680/1470H	1+ TV	3/4	26(,670)
	Zee bouquet	3700/1450V	10TV	3/4	27(,500)
	Ch News Asia	3706/1444H	1TV (+)	3/4	6(,000)
	Azlo TV	3716/1434H	1TV (+)	3/4	7(,000)
	3 ch MUX	3723/1427V	3TV	3/4	6(,500)
	SAB TV	3743/2407V	1TV	3/4	3(,300)
	AAJ-TV	3750/1400V	1TV	3/4	2(,820)
	Airrang TV	3755/1395V	1	7/8	4(,418)
	Now TV +	3760/1390H	up to 10TV	7/8	26(,000)
	Star TV	3780/1370V	7(+TV)	3/4	28(,100)
	GXTV	3806/1344V	1TV + 3 radio	3/4	4(,420)
	Shaanxi TV	3813/1337V	1TV + 2 radio	3/4	4(,420)
	Anhui TV	3820/1330V	1TV + 2 radio	3/4	4(,420)
	Jiangsu TV	3827/1330V	1TV + 2 radio	3/4	4(,420)
	HLITV	3834/1316V	1TV	3/4	4(,420)
	Star TV	3840/1310H	7(+TV)	7/8	26(,850)
	Star TV	3860/1290V	5(+TV)	3/4	27(,500)
	Abu Dhabi MUX	3880/1270H	8+TV, 10Radio	3/4	27(,500)
	Dragon TV	3886/1264V	1 TV	3/4	4(,800)
	Shandong	3895/1255V	1TV + 6 radio	3/4	6(,813)
	Jilin TV	3914/1236V	1TV + 1 radio	3/4	4(,420)
	Star TV	3920/1230H	4+ TV	7/8	26(,850)
	Star TV	3940/1210V	6(+TV)	7/8	26(,850)
	CNN	3960/1190H	8(+TV)	3/4	27(,500)
	StarTV	3980/1170V	6+TV	3/4	28(,100)
	Star TV	4000/1150H	8(+TV)	7/8	26(,850)
	Sahara digital	4020/1130V	8TV	3/4	27(,250)
	Hubei TV	4035/1115H	1TV + 2 radio	3/4	4(,420)
	Tianjin TV	4046/1104V	1TV + radio	3/4	5(,950)
	Sichuan TV	4051/1099H	1TV + 1 radio	3/4	4(,420)
	Qinghai TV	4067/1083H	1TV + 2 radio	3/4	4(,420)
	Hunan TV	4082/1068H	1TV + 1 radio	3/4	4(,420)
	Pakistani TV	4091/1059V	5TV, 1 radio	3/4	13(,333)
	Sun TV	4095/1055H	1	3/4	5(,554)
	TVB8 Mux	4110/1040H	3	3/4	13(,650)
	Indus News	4115/1035V	1	3/4	3(,222)
	CCTV bqt	4129/1021H	4(+TV)	3/4	13(,240)
	Zee Bqt #2	4140/1010V	8(+TV)	3/4	27(,500)
	Henan TV	4166/984V	1TV + 4 radio	3/4	4(,420)
	Fujian TV	4180/970V	1TV + 2 radio	3/4	4(,420)
	Jiangxi TV	4187/963V	1TV + 2 radio	3/4	4(,420)
	Liaoning TV	4194/956V	1TV + 2 radio	3/4	4(,420)
	Cak1/107.5	Indovision (S-band) 2,535, 2,565, 2,595, 2,625, 2,655	33(+TV)	7/8	20(,000)
	T'Kom/108E	IndoBqt	up to 6	3/4	28(,000)
C2M/113E	TPI	4185/965V	1	3/4	6(,700)
	TVE Asia-Africa	4160/990H	1	3/4	5(,632)
	Anteve	4144/1006V	1	3/4	6(,510)
	Kabelvision Mux	4080/1070H	7+ TV	7/8	28(,125)
	Indostar	4074/1076V	1	3/4	6(,500)
	Satelindo	3935/1215H	1	3/4	6(,700)
	Bali TV	3926/1224H	1	3/4	4(,208)
	Indo MUX	3880/1270H	3+ TV	7/8	28(,121)

Receivers and Errata

CA (#1, 3); FTA audio #2 (dm)
Late July 04: room for more (FTA)
Global footprint, changes 02/03.
CA + 23FTA(AITV, IRB3, Visjon Norge)
New 03/03; FTA
Thai + Indian services; FTA inc. Vibe TV, Sindh TV
MRTV3, MRTV (DM)
3TV, 5radio inc. Hellas TV Greece FTA
PIDs 4132/4133
frequency change
Aug 04: 5TV, 1 ra FTA (India)
FTA
3FTA: TV5, VTV4, ATN Bangla
Not 24 hour; FTA?
FTA reaches SE Australia
Several ETV now here; wide beam
SCPC, OK E. Aust. wide beam
SCPC, OK E. Aust wide beam
corrections 12/02
Several new ETV here; Asia beam
New - November 2002
(still) FTA 11-04; was 11.083H
July 04: FTA
FTA TV + radio; RAI PID changes April 2005
Was 3923H; sometimes FTA
FTA; multiple audio services V2360, A2320
Sometimes FTA; also 3895Vt
FTA & CA
FTA and CA - NASA reports included
5 chs TV, FTA, some tests
FTA, EuroSport PID change (1213/1313) June
FTA as of May 1, 2003
new here Dec 2004; Euro-French music videos
Increased coverage; great variety audio chs(03-05)
Sun-TV, Surya TV, KTV (FTA)
FTA MCPC; Yemen, MBC EUROsport tests
replaces analogue same freq; V33, A32
Now SECA 2 CA (10-04)
New September 2003; English + V1160, A1120
Parallel to 3640Hz analogue (due to cease)
Conax CA, 3 ch movie mux; Dec 2004
SAB may no longer here here; moved to NSS-6?
New April 2005; English, urdu
FTA SCPC; New PIDs V3601, A3606 June 2003
CA + FTA
NDS CA (Pace DVS211, Zenith)
Guangxi TV; was As2
Was As2
Was As2
Was As2
Was As2; HeiLong
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DVS211, Zenith)
New April 2004: link to Ophus B3 Globecast
Shanghai
Apparently Mongolia; was As2
Was As2
Star Sports Asia (+), FTA NTSC; V514, A670 (10-04)
NDS CA as above; may NOT be operational
PowVu CA; new SR Apr 29; CNN radio FTA
NDS CA; Star News India FTA VPID 514, APID 648
NDS CA w/ 4(Chinese) FTA
New Sr September
Was As2
new December 2005
Was As2
Was As2
Was As2
new Sr, channels, Nov 2003
"History Channel" - SCPC, some English
MATV Chinese movies FTA +CA; new Sr 05-04
Hindi (+ "Plus")
moved from 4115
Now SECA 2 CA (10-04); 1 occ. FTA (varies)
Was As2
Was As2
Was As2
Was As2
NDS CA using RCA/Thomson,
Pace IRDs; 2,535 has 2 FTA
also 3586H/17,500, 3496H/19,615
FTA SCPC; NT/NC only
New August 2003
change from 4055V; FTA SCPC
also try 3500H, 27,000, 3/4; strong NZ
FTA (new 06-03); V2201, A2202
test card - only - reported
FTA, may not be active full time
FTA: Sr change 01/03: errata

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
	Brunei/Sing	3733/1417H	1TV	3/4	6(.000)
	SCTV	3726/1424V	1TV	3/4	6(.620)
	RCTI	3473/1677H	2	3/4	8(.000)
As4/122E	CCTV internal	4100/1050V	6	3/4	27(.500)
Jc3/128	Miracle Net	3996/1154V	3 up to 6	5/6	22(.000)
	Asian bqt	3960/1190V	up to 8	7/8	30(.000)
Ap6/134E	Multiple	see night	3731V, 3745V, 3758H	3765V, 3779V, 3820V	3840H, 3886V
T18/138	Tests	3460/1690V	8	3/4	30(.000)
	LTV Laos	3804/1346V	1		
Jc2A 154	BYU-TV	3915/1245V	1+ 20 languages	3/4	4(.166) (?)
MeasSs2	Astro Mux	11.602H	up to 17TV	3/4	41(.500)
	VTV MUX	11.522V	3 TV	3/4	9(.766)
B3/152	AuroraBiz	12.407V	4 TV, 10 radio	2/3	30(.000)
	UBI/Tests	12.425V	up to 13 TV + radio	3/4	22(.500)
	Globecast 2	12.525V	13 TV, 8 radio	2/3	30(.000)
	Globecast (feeds)	12.550-555V	1TV	3/4 & 2/3	6(.110/.670)
	Globecast	12.564V/T13	2+ TV	2/3	30(.000)
	UBI/Tests	12.613H/T14L	11+TV	3/4	22(.500)
	UBI/Tests	12.640H/T14U	11+TV	3/4	22(.500)
	Globecast 1	12.658V/T7	14TV, 15 radio	2/3	30(.000)
	UBI/Tests	12.674H/T15L	11+TV	3/4	22(.500)
	UBI/Tests	12.701H/T15U	11+TV	3/4	22(.500)
	WA ABC	12.702V	1 TV, 1 radio	7/8	14(.288)
	WA SBS	12.720V	4TV, 2 radio	5/6	12(.600)
	WA GWN/WIN	12.738V	2TV	7/8	14(.295)
C1/156E	Optus test bed	12.288V/T1L	6+ (ABC) TV	1/2	28(.650)
	Aurora	12.324V/T1U	4+ (ABC) TV	1/2	24(.450)
	Pay TV	12.365V/T2	11TV, 2 radio	3/4	27(.800)
	Aurora Home	12.407V/T3	5 TV, 13 radio	2/3	30(.000)
	Pay-TV	12.447V/T4	5TV, 4 data	3/4	27(.800)
	Pay TV (test)	12.487V/T5	3+ TV, data	3/4	27(.800)
	Aurora 2	12.527V/T6	7TV, 20 radio	3/4	30(.000)
	Pay-TV	12.567V/T7	10 TV	3/4	27(.800)
	Pay-TV	12.607V/T8	10 TV	3/4	27(.800)
	Pay-TV	12.647V/T9	10 TV	3/4	27(.800)
	Pay-TV tests	12.720V/T10	6+TV, data	3/4	27(.800)
	Austar	12.305H/T11	6TV, 24 data	3/4	30(.000)
	Pay-TV	12.358H/T12	10 TV	3/4	27(.800)
	Pay-TV	12.398H/T13	10 TV	3/4	27(.800)
	Pay-TV	12.438H/T14	6TV, 3 data	3/4	27(.800)
	Pay-TV	12.478H/T15	10 TV	3/4	27(.800)
	Pay-TV	12.518H/T16	10 TV	3/4	27(.800)
	Pay-TV	12.558H/T17	10 TV	3/4	27(.800)
	Pay TV	12.598H/T18	TV	3/4	27(.800)
	Pay-TV	12.638H/T19	10TV, 30 radio	3/4	27(.800)
	Pay TV	12.688H/T20	11TV	3/4	27(.800)
B1/160	7 Central DTV	12.354H	1TV	3/4	5(.100)
	Occ. feeds	12.380H	1 TV - *	3/4	6(.111)
	Occ. feeds	12.384V	1 TV - *	3/4	6(.111)
	Net 7 service	12.397H	1	3/4	7(.200)
	Imparja mx	12.379H	2TV + 8 radio	3/4	5(.424)
	7 digital feeds	12.397H	1TV	3/4	7(.200)
	Feeds to NZ	12.411V	1 TV	3/4	6(.111)
	SBS Mux	12.420H	3+ TV, 2+ radio	5/6	12(.600)
	TVNZ DTH	12.456V	5+TV	3/4	22(.500)
	TVNZ Tests	12.483V	up to 11TV	3/4	22(.500)
	Sky NZ	12.519/546V	7TV/7TV	3/4	22(.500)
	Sky NZ	12.581/608V	6TV/6TV	3/4	22(.500)
	Sky NZ	12.644/671V	9TV	3/4	22(.500)
	ABC HDTV	12.610H	5TV	7/8	14(.3288)
	Sky NZ	12.707/734V	8+TV	3/4	22(.500)
PR/166E	ABS-CBN	12.575H	4+TV, 4+ radio	2/3	13(.845)
	JEDI/TVB	12.686H	11+ TV	3/4	28(.126)
	ABC A-P	4180/970H	2TV, 2 radio	3/4	27(.500)
	Disney Pac	4140/1010H	typ 6 TV	5/6	28(.125)
	Taiwanese MUX	4080/1070H	12+ TV	5/6	30(.000)
	NHK Joho	4060/1090H	7TV, 1 radio	3/4	26(.470)
	FOX Mux	4040/1110V	up to 5TV	7/8	26(.470)
	NET +	4121/1029V	1 TV	3/4	4(.774)
	ESPN USA	4020/1130H	8+TV, data	3/4	26(.470)
	Discovery	3980/1170H	8 typ.	3/4	27(.690)
	CalBqt/Pas8	3940/1210H	up to 3+ FTA	7/8	27(.690)
	CNBC HK	3900/1250H	up to 7TV	3/4	27(.500)
	FilipinoMUX	3880/1270V	up to 8TV+radio	5/6	28(.694)
	TaiwanBqt	3860/1290H	12TV + 30 r	5/6	28(.000)
	CCTV Mux	3829/1321H	up to 4 + 1 radio	3/4	13(.240)
	TVBS-N	3836/1314V	1FTA , 4+ CA	3/4	22(.000)
	EMTV PNG	3808/1342V	1 + 2 radio	3/4	5(.632)
	CNNI	3780/1370H	3, up to 5 TV	3/4	25(.000)
	Discovery Asia	3764/1386V	Up to 6 TV	3/4	19(.850)
	MTV	3740/1410H	8	2/3	27(.500)
P2/169E	WA Mux Pv	12.281V	3+ TV, radio	2/3	27(.500)
	Ariang TV	12.401V	1TV	3/4	4(.400)
	ABS-CBN	12.575H	4TV, 2 radio	2/3	13(.845)
	Test mux	12.715H	6+ TV	2/3	30(.000)
	TARBS feeds	4090V/1060V	9TV + radio	3/4	21(.000)
	BBC SCPC	3886/1164H	1TV	1/2	5(.700)
	Middle East	3836/1314V	4 typ	3/4	13(.331)

Receivers and Errata

FTA ; Singapore 23hrs, Brunei 1 hr, Brunei V1200 was on 4048V; New Caledonia, parts of Australia FTA SCPC; Australia, New Caledonia, some Eng. Irdeto 2 + TVSN occ. FTA; also, 4020V PowerVu; some FTA (Ch. 1 & 3) CA & FTA NTSC; Japan, Taiwan > Analogue 3960H, 3980V, 4000H (ApStar 6) also try 3660/3540VVt, Sr 30.000, 3/4; some FTA VPID 512, APID 4112 Strong NZ & Australia; may now be 1/2, 6.525 Aust East beam - 3 FTA + 14 CA WA only? Skew path, intended Asia differs from 12.407 CI; **tune ch FTA; NZ+Au** T11/lower testing late May 2005 NZ + Au, FTA Mcript CA occ feeds, NZ + Au; recently 12.553V New Feb 05; TVN racing, TV Korea, Telepace High performance beam; not NZ High performance beam; not NZ NZ + Au (Mcript, PowVu capable) High performance beam; not NZ High performance beam; not NZ ABC WA tests, FTA SBS, radio tests WA FTA Irdeto V2 CA, tests (GWN, WIN) Widescreen ABC service feeds x 6 + tests; 29 radio CA, replaced Aurora T10 1 February 2005; 19 radio Tests; SBS-NDS CA, others FTA when here NZ (90cm) + Australia (**Only svt left on NZ; C1**) Australia NA only (leakage to Norfolk, New Cal) Australia NA only (leakage); 9-Net x 3 widescreen Arrow radio (still here), tone FTA Pay-per-view movies; CA Pay-per-view movies; CA Pay-per-view movies; CA currently repeating 12.438Hz; TVSN FTA Austar inter; **Expo FTA** NDS CA + Mcript; CA CA, subscriptions available Australia, Norfolk Sky News active; 'Help x 2' FTA CA, subscriptions avail Au, Nrlk; **TVSN FTA** CA, subscriptions available Australia, Norfolk 'Home' CA, subscription available Australia, Nrlk CA, subscriptions available Australia, Norfolk CA, subscription available Australia, Norfolk CA, subscription available Australia, Norfolk Central beam; originally to feed Tasmania * - plus 12.451H, 12.460H * - plus 12.293V, 12.402V, 12.411V Full schedule less commercials - links; may be CA PIDs vary; also try 12.360, 12.370 occ. digital feeds; typ fla Often NTSC; USA-Australia-NZ **Also 12.437H, 12.456H** same params; HDTV+WS FTA 7 channels (TVNZ x 4); +Maori, DW, CCTV9 Testing late June; possible FTA MUX coming? NDS CA, subscription available NZ NDS CA, subscription available NZ NDS CA, subscription available NZ also see 12.626, 643, 670, 688, & 706H NDS CA, subscriptions available NZ CA June 2002-Irdeto-2 CA Dateline west; also east PAS2, 3901V PowVu CA Tests - CA service announced PowVu CA & FTA; subscription available was PAS-2, previously 3992V; **feeds FTA** NET25 + FTA; new PIDS April '03; reload PowVu CA; ch 11 DCP-CCP bootload; audio FTA PowVu/CA (some audio FTA) PowVu CA & FTA (EWIN + CBS + TBN +) NDS CA (6 channels); one test card occ FTA **Myx FTA** V1960, A1920 + radio FTA Mixed FTA & CA; STC gone (CA) PowVu FTA, replaces PAS-2 svc Difficult because of CCTV cross pole PowVu CA PowerVu; some audio FTA PowerVu; Asian MUX; new parameters Nov '03 # 8 **MTV China FTA V289, A290**; rest CA PowVu CA, WIN, ABC NT, SBS; status unknown Test - may not stay permanently Temp FTA; subs Aust 011-800-2270-0722 initially with 6 NTSC colour bars Occ FTA (Chile +); BIG power reduction Nov 03 BBC World moved here January 2005 **Irdeto 2 CA - subscriptions avail; Strong Tech**

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Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(PAS2/169E)	Adventists.tv	4040/1010H	1	2/3	5(,900)
	Feeds	3868/1182H	1	2/3	6(,620)
	Feeds	3939/1211H	2 (typ NTSC)	2/3	6(,620)/7(,498)
	Cal PowVu	3901/1249H	up to 8	3/4	30(,800)
	HK bouquet	3850/1300H	up to 8	2/3	24(,900)
	Korean Bqt	3771/1379H	1	3/4	6(,510)
1804/174E	iPSTAR	12,619H	1	2/3	25(,220)
	Tests-NZ beam	12,646H	1	3/4	22(,418)
	RFO Poly	4027/1123R	1TV	3/4	4(,566)
1701/180E	TNTV	11,060&11,514V	9	3/4	30(,000)
	TVRFO	11,136V, 11,174V	6+TV, 3+ radio	3/4	23(,149)
	Canal+ Sat	11,610H	16TV, 1 radio	3/4	30(,000)
	PBS	12,648HH	16TV possible	3/4	28(,066)
	TVNZ/BBC	4186/964RHC	1	3/4	5(,632)
	TVNZ	4178/972RHC	1	3/4	5(,632)
	AFRTS DTS	4175/975L	3 TV, 3 radio	2/3	3(,680)
	TVNZ/Aptn	4170/980RHC	1	3/4	5(,632)
	Fiji Sky Pacific	4095/1055LHC	6TV + future radio	3/4	16(,505)
	Fiji Sky Pacific	4055/1095LHC	6TV + future radio	3/4	16(,505)
	TVNZ/feeds	4052/1098RHC	1	3/4	5(,632)
	TVNZ, feeds	4044/1106R	1	3/4	5(,632)
	NZ Prime TV	4024/1126L	1	2/3	6(,876)
	NBC to 7 Oz	3960/1190R	1	7/8	6(,447)
	WorldNet	3886/1264R	1TV, 37 radio	3/4	25(,000)
	Icarana	3772/1378L	1	3/4	4(,566)
	NASA TV	3854/1296R	1 TV	3/4	2(,000)
	NASA TV2	3859/1291R	1 TV	3/4	2(,000)
	TVNZ	3846/1304R	1	3/4	5(,632)
	NBA (Barker) Ch	3803/1347R	1	3/4	6(,111)
	USA feeds	3749/1401R	4?	?	26(,400)
NSS-5/177W	Pacific IP Data	3763/1387R	none-data	3/4	27.5
	BYU-TV	4185/965R	1TV, 20+ audio	1/2	6(,525)
	iPSTAR Tests	12,691V	9+ TV	5/6	17(,600)
	Russian TV tests	12,774H	1 TV	3/4	3(,470)

Receivers and Errata
New December 2003; 24/7 "Hope Chs."
FTA (occ sport); also try 3863, 386, 100
FTA-typ NTSC-occ sport, live Shuttle
PowVu CA + FTA (includes BBC-W 05-05)
was 4148Vt, some FTA
Korean MUX, reload 12-04; new Sr
Tests, late May start; also 12,646H
Testing possible data links; June 2003
SE spot beam; was 4027LHC
east spot, 10TV + r each, vertical pol.
FTA 11.136 Tahitian beam, 11.174 west beam; 12/04
1+ FTA, MediaGd "2"; + 10.975 weaker
Testing Fiji region pay-TV (MDS) package (Oct '04)
DMV/NLT early vers., occ feeds, typ ca
DMV/NLT early vers., occ feeds, typ ca
DTS Direct to Sailors; audio previously FTA - gone
DMV/NLT early vers., occ feeds, typically ca
Nagravision CA (> Feb 1, 2005) New PIDS
All now (including Fiji 1) CA; 7 Feb, 2005)
DMV/NLT early vers., occ feeds, typ ca
SCPC, mixed CA and FTA feeds
PowVu CA; Auckland net feeds
CA, Leitch encoded
New PIDS Dec 03 very strong NZ, Pacific
FTA SCPC; East Hemi Beam-Tahiti
24/7 live NASA - West Hemi beam (difficult!)
NASA supplemental
SCPC, mixed CA & FTA, feeds
NBA feeds - probably CA - new Nov 2003
16-QAM (not MPEG-2 compatible)
Data only but useful for dish alignment
Global beam - requires sizeable dish
CA Tests - Taiwan TV; data coming?? (NZ beam)
Tests - may not last (May 2005); NZ + beam

MPEG-2 DVB Receivers: (Data here believed accurate; we assume no responsibility for correctness!)

AV-COMM R3100. FTA, excellent sensitivity (review SF May 1998); new version Sept '99. AV-COMM P/L, 61-2-9939-4377.

AV-COMM Tiny Tot. FTA, 12Vdc operated, palm sized, low power consumption; review SF#120. Contact # above.

AV-COMM R3100(A). FTA, good sensitivity, ease of use exc (review SF May 2002). See above contact.

Coship 3188C. Review SF#107. Blind search FTA rcvr; works well. Available from Satlink NZ www.satlinknz.co.nz. (ONLY KNOWN DISTRIBUTOR IN WORLD)

Divitone. "Left-handed" review SF#115; does "code key" entry. Available <http://www.satmax.ws>

eMTECH eM-100B (FTA), eM-200B (FTA + Cb2), eM210B (FTA + 2xCI + positioner); KanSat 61-7-5484 6246 (review SF#89)

Fortec Star Lifetime. Two versions, both blind search, code-key programmable, one X 2 CI. Review SF#119. www.aDigitalLife.com

Humax ICRI 5400 (Z). Embedded Irdeto + 2 CAM slots; initial units had NTSC glitch, now fixed. Widely available; new software avail 04-04, SF#76.

Humax IRCI 5410 (Z). Adaptable version capable of holding multi-CA systems (SF#98, 99). Widely available; original importer Sciteq (www.sciteq.com.au).

Hyundai-TV/COM. HSS100B/G (Pacific), HSS-100C (China) FTA. Different software versions; 2.26/2.27 good performers, 3.11 and those with Nokia tuners also good; later 5.0 not good. SATECH (V2.26)

Hyundai HSS700. FTA, PowerVu, SCPC/MCPC. Review SF March 1999. Kristal Electronics, 61-7-4788-8902.

Hyundai HSS800CI. FTA, Irdeto (with CAM) + other CA systems, PowerVu, NTSC. Kristal Electronics, above; review SF#63.

INNOVIA IDS3088. Review SF#111. Blind search FTA receiver. High quality IRD; available Phoenix Technologies, and Satmax (<http://www.satmax.ws>).

ID Digital CI-24 Sensor. New August 2003; new lower noise tuner, extra sensitivity; CI Interface slot Irdeto 1 & 2; review SF#109. Sciteq 61-8-9409-6677.

MediaStar D7. FTA, preloaded w/ known services, exc. software (review SF July 1998). MediaStar Comm. 61-2-9618-5777

MediaStar D7.5. New (May 00) single chip FTA; review June 00 SF. MediaStar Comm. Int. 61-2-9618-5777

MediaStar D10. FTA and Irdeto embedded CA. VG receiver; see review SF#96, August 2002. Contacts immediately above.

MultiChoice (UEC) 660. Essentially same as Australian 660, not grey market contrary to reports. Sciteq tel 61-8-9306-3738

Nokia "d-box" (V1.7X). European, FTA, may only be German language, capable of Dr. Overflow software. SF#95, p. 14.

Nokia 9200/9500. When equipped with proper software, does Aurora, originally did pay-TV services provided software has been "patched" with "Sandra" or similar program. See SF#95, p. 14, SF#96 p. 15. SatWorld 61-3-9773-9270 (www.satworld.com.au)

Pace DGT400/DVR500. Originally Galaxy (Now Foxtel+Austar). Irdeto, some FTA with difficulty (Foxtel Australia 1300-360818). UECs replaced; Sept 18 (2003) "drop-dead" day; all were to have been "turned off" on that date (in fact, those with V1.13 CAMs may still be working; still does radio including CA, not TV).

Pace "Worldbox" (DSR-620 in NZ). Non-DVB compliant NDS CA including Sky NZ, no FTA; similar "Zenith" version (see SF#115, p. 15).

Phoenix 111, 222. PowVu capable, NTSC, graphics, ease of use. (111 review SF#57). SATECH (below) 222; terminated

Phoenix 333. FTA SCPC, MCPC, analogue + dish mover. Detailed SF review SF#51. SATECH 61-3-9553-3399.

Pioneer TS4. Mediaguard CA (no FTA), embedded Msym, FEC, only for Canal+Satellite (AntenneCal ++687-43.81.56)

PowerVu (D9223, 9225, 9234). Non-DVB compliant MPEG-2 unless loaded with software through ESPN Boot Loader (see below). Primarily sold for proprietary CA (NHK, CMT etc). For service only - call Scientific Atlanta 61-2-9452-3388. For revision model D9850, see Scientific Atlanta (below).

PowTek. Blind Search Chinese sourced, field tests rate it highly. Source jason@adigitallife.com

Prosat 2102S. FTA SCPC/MCPC, NTSC/PAL, SCART + RCA. Sciteq 61-8-9306-3738.

SatCruiser DSR-101. FTA SCPC/MCPC, PowVu, NTSC/PAL. (Skyvision Australia 61-3-9888-7491, Telsat 64-6-356-2749); no longer available.)

SatCruiser DSR-201P. FTA SCPC/MCPC, PowVu, NTSC/PAL, analogue, positioner - (Skyvision - see above); no longer available.

SATWORK ST3618. Blind search FTA receiver. Fast search, problems, especially in "memory-filing" system; review SF#111. Available DMSi at tim@dmsiusa.com.

SATWORK ST3688. Blind search, 3000+ ch memory, multi-format RF modulator; improved version 3618. Review SF#113; available DMSi (above).

Scientific Atlanta D9223, D9234, D9225. Orig. PowerVu, superseded Dec 2003 by D9850. Commercial receiver, available TVO 61-2-9281-4481, John Martin

Strong Technologies SRT2620. SCPC, MCPC FTA, exc sensitivity, ease use, programming. Review SF#91 (ph. below).

Strong SRT 4600. SCPC, MCPC, PowerVu; exc graphics, ease of use, review SF#64. Strong Technologies 61-3-8795-7990.

Strong 4800. SCPC, MCPC, embedded Irdeto+ CAM slots, does code-key with additional software, Aurora. Strong Technologies 61-3-8795-7990.

Strong 4800 II. SCPC, MCPC CAM slots x 2 for Aurora +, Zee, Canal +, code key with additional software. Strong Technologies (above); review SF#103.

Strong 4890. SCPC, MCPC, 30Gb PVR, 2 CAM slots, DiSEqC 1.0, 1.2 (review SF#84), does code key with additional software; Strong Technologies, # above.

UEC Atlas/Titan (1000). New July 2003, replacing DGT400 for Austar. No SCART, L-band loop; also available Rural Electronics 61-2-6361 3636.

UEC642. Designed for Aurora (Irdeto), approved by Optus; w/new software, C-band FTA; faulty P/S. Norsat 61-8-9451-8300.

UEC660. Upgraded UEC642, used by Sky Racing Aust., Foxtel, limited FTA. (Nationwide - 61-7-3252-2947); P/S problems.

UEC700/720. Single chip Irdeto built-in design for Foxtel; unfriendly for FTA. Power supply problems, seldom sold to consumers; propensity to fall off back of trucks.

Winersat DigiBox 200. C + Ku basic receiver but includes Teletext for NZ TVOne, 2 VBI. Satlink NZ, fax 64-9-814-9447, long term teletext problems (loses TT).

"X" Digital. When modified with "aftermarket" Internet software, does Aurora and other V-1 CA without card; review SF#119. Strong Technologies (61-3-8795-7990).

Accessories:

Aurora smart cards. MCRYPT (Irdeto V02) cards now available (Jan 2005), Sciteq 61-8-9409-6677.

PowerVu Software Upgrade: PAS-8, 4020/1130Hz, Sr 26.470, 3/4; pgm ch 11 and follow instructions (do not leave early!)

PowerVu (Pacific) repair service: Cable & Sat Svcs. Darius West. 61-2-9792-1421 (Email darius@cases.net.au)

WITH THE OBSERVERS

AT PRESS DEADLINE

JCTV, TBN, Church Ch returned to 1701 (3927R, Sr 9.100, 2/3); possibly E-hemi only; July 8, gone, new "Barker", CA including 'Sexy Hot Pants' (3803R, 6.111, 3/4). B3 for B1 swap? Project placed on 'hold', is one option should B1 again have whiskers control problems (SF#130, p. 14). Optus, Sky NZ apparently will 'tough this out'.

Launches: July 11 - iPSTAR to 119.5E; 87 Ku and 10 Ka. July 28 - Telekom 2 to 118E; 24C, replacing Palapa B4.

ApStar 6/134E: "Conversion from ApStar 1A completed mid-June; no changes from 1A channelling but new ones added; Gansu TV 3893V, Sr 4.800, 3/4; NingXia TV 3886V, also 4.800, 3/4; I-Sky-Net mux 3600V, Sr 30.000, 3/4 - testing, briefly, gone." (A. Zapara, WA) (Editor's note: See 6 footprint map p. 31, SF#130; virtually all of Pacific region should have this one loud and clear.)

AsiaSat 2/100.5E: "EDTV Dubai replaced with Sama Dubai 4020V (V=4642, A=4643)". (Kenneth) "3914V, Sr 6.110, 3/4 FTA coverage of movie star gathering; 3806V, Sr 6.666, 3/4 Shanghai V8 Super Car feed in 4:2:2, audio FTA". (B. Richards, SA)

AsiaSat 3S/105.5E: "SAB TV (India) gone from 3743V". (Raleigh)

Optus B1/ 160E: "TVNZ 12.483V (Sr 22.500) on June 30 began loading 9 services of which NASA-TV is the most interesting: (1) Test bars/tone, (2) DW-TV (Germany), (3) TVNZ promo, (4) TV1 Auckland, (5) TV2 Auckland, (6) CCTV-9 (English news service), (7) Test, often TV5 Asia - French, (8) Promo, (9) NASA-TV. NASA coverage of Templar mission was a welcome diversion!" (Steve, NZ) "Text PID is 579 on all but #1 (no txt), 7 (txt 580)". (Craig S, NZ) (Editor's note: TVNZ is not releasing any information as to their short-term plans for this MUX.)

Optus B3/152E: "T11/lower 12.425H, UBI has added 2nd Persian TV ch (from California); Tapesht TV (www.tapeshtv.com); on June 7, loading table returned with old TARBS labels removed, now loads with other 4 UBI transponders. On June 11, UBI scrolling text advised viewers to turn off STBs for 60 seconds, to reload with new channels; on 16 June UBI changed to new PIDs on the first 33 channels (T15L/12.674H, T15U/12.701H, T14L/12.613H). SCTV (community ch) is now 44, On July 3, Columbia's TV TeAcera started on ch 36 (www.tvcolumbia.com). On Globecast T5/12.525V (Sr 30.000, 2/3) KISS FM (originates Melbourne 87.6) is selling 'membership' to raise support. TVRi (TV Romania International; www.tvr.ro) is promoting this transponder (which serves NZ + Australia) suggesting they plan to stay here although Globecast also shows TVRi as on T13 (12.563H 30.000, 2/3 with V=2560, A=2520) as well. T7/12.657V, scrolling text announcing TBN, JCTV, Church Channel are to be dropped 'because of a lack of support' and urging viewers to contact NZ rep for TBN. Still on the air

Fashion TV Expansion

Fashion TV (presently As3R, 4088Hz, Sr 2.626, 3/4) is expanding to As2 on September 1 (3796V, Sr 2.626, 3/4). As2 will programme "f.men" including "Midnight Hot". 4088H reported FTA July 9. (BR)

July 6. " (IF, Qld.) "TVRi, Jame-Jam FTA 12.564H, PIDs 1760/1720 and 1860/1820". (Gracious)

Optus C1/156E: "T15/12.478H, Sr 27.800, 3/4; 'Fox Sports News Active' has one video PID (1111) and multiple audio PIDs (1112, 1113, 1114) and two data PIDs (one running at 0.8 Mbit/s). This is duplicated on 12.478H, 27.88, 3/4 as label 'FSNA'. On T14/12.438H 27.88, 3/4 Optus was running 'Fox 8'. June 30th, V=1061, A=1066 with reduced data rate, replaced one of these and label changed to 'EXPO'. On July 1, Prime terrestrial network substituted Expo for TVSN." (IF, Qld.) "There are some 'strange' changes to Optus Aurora feeds. On T3/12.407Vm Sr 30.000, 2/3 Tune had changed PIDs to V=80, A=81; BTv1 is now V=96, A=97 and BTv2 is now V=53, A=54. These changes means receivers that do not do auto-PID now have the video and audio PIDs of BTv2 on the 'Tune 156E channel'. Because 'Tune 156E is FTA, it does not have an ECM PID so non-auto-PID receivers using any card (including the so-called 'Gold Card') will now indicate 'Tune 156E' is encrypted (some might guess it is Mcrypt - it is not). If there are USCLA capable receivers that do not have auto-PID, they could play the picture of BTv2 on the Tune 156E channel; typically colour bars with tone. This seemed to make no sense until later when Optus made further changes. On June 16, Optus began transmitting copies of the two MCPCs on T1 onto T10. T1/lower 12.288V, Sr 28.650/1/2 (Foxtel's ABC) was copied to T10/lower 12.691V, 28.650, 1/2. And, T1/upper (12.324V, 254.450, 1.2 (Aurora's ABC except WA) was copied to T10upper, 12.728V, 24.450, 1/2. Then Optus began airing 4 pages of text on the 'Tune 156E' channel, informing there will be changes for ABC services (excluding WA) between August 7 and 10, 'which may require a tune and rescan for receivers that are not ADB, Panasonic or UEC'. This suggests Optus is clearing Tr T1 with Aurora's T10upper MCPC being moved to T10upper. Because of the mid-June PID changes, those using non-approved receivers that do not auto-PID will not see the (advisory) pages of text; some may even see a test card. By phoning Optus to ask why their ABC is gone, they will be falling into a 'trap' and admitting they are not using Optus-approved receivers! Optus would seem to be wanting to

WITH THE OBSERVERS: Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. **Photos of yourself, your equipment** or off-air photos taken from your TV screen are welcomed. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady. Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for August 15th issue: August 4th by mail or 5PM NZT

The steps to becoming an installer for satellite broadband

"I am working with a Melbourne based company (Regional Outcomes) who oversee the installations for Clear Networks, Australia wide. Based upon normal pay schedules, I must classify these as good and flexible when an installation becomes a monster (not everything we run into in the field is 'textbook' of course). I attended a 3-day course run by Telstra which was very comprehensive. Telstra uses the AsiaSat 3R for two-way and PAS-2 for one-way. AsiaSat 3R can be a look angle problem in CBD areas (tall buildings blockage). Most of us are anxious to see how the forthcoming iPSTAR functions as they will have excellent look angles and a very powerful platform. There are no verifiable statistics I can find as to the take-up of VSAT plus HiBIS but within the cadre of folks doing this work numbers as high as 16,000 are bantered about. One of the hurdles for an installation is programming the modem and we carry a laptop to the site for this purpose. Future advances, from Gilat and others, will have plug and play modems ready to function when they come out of the box; a big step forward. An installer needs to be computer literate as well as satellite smart. There are steps in the installation (such as minimising cross pole back to the satellite) which requires significant care and must be done 'on line' with the Optus BOC facility as a part of the procedure in commissioning each terminal. Regional Outcomes has a help desk which I have found very useful when an install gets into trouble (and they do!). This is definitely a step up from doing DBS installs for Austar (or Foxtel) and because the skill levels are significant, after training, we are paid more by a nice margin. Those interested should contact Derek Winter

(derek.winter@regionaloutcomes.com.au) who is General Manager, as well as going to the Australian website for information concerning HiBIS (www.telinfo.gov.au)."

Brian Watson, Western Video, Launceston, Tasmania

keep the V=53, A=54 PIDs active so that non-auto-PID receivers will not indicate 'service not running' on the Tune 156E' channel". (IF, Qld.)

PanAmSat PAS2/169E: "Hanshin racing FTA 3813H, Sr 6.145, 3/4 0720UTC 26 June". (B.Richards, SA) "TBN, JCTV, Church Ch gone from 3901H (Cal Bouquet)". (Raleigh) (Editor's note: See 'At Press Deadline, p. 27 - 5m works in American Samoa on new 701 feeds.)

Soapbox: Dr Dish satellite TV hobby TV programme returns (in Europe) live on Intelsat 1002 (1W) July 28th at 1900 hours CET (1700 GMT). Christian Mass is once again anchoring the show which will consist of two 90 minute segments; the first in German, the second in English. The show is depending upon commercial sponsors to cover costs and will be rebroadcast on four additional satellites "some days later", on a schedule you can pickup at

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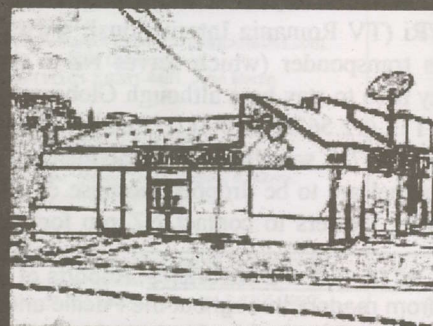
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SATSHEK Communications, **Suva** (Ph3307933; parmarbros@connect.com.fj)

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The Antenna Man, **Taranaki** (Ph 06 758 1633; antenna.man@xtra.co.nz)

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Smartzone, **Wellington-Wairarapa-Palmerston N** (C+Ku) (Ph 029 289 6333; info@smartzonesystems.co.nz)

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Teleworks, 100km of **Cairns** (C + Ku). (Ph 0412 84115; rajvrm@aol.com)

Cape York Electronics, **Cooktown and 'the cape'** (started 1970s) (Ph 07 40 695 252; cyectn@tpg.com.au)

Phil's Antenna Systems, 100km radius of **Hervey Bay** (C+Ku since 1996). (Ph 0741 256 273)

Rick Dalton TV & Satellite, 100km of **Kawana Waters** (C + Ku). (Ph 07 5493 4343; rick@antechtv.com.au)

Videotronics Mackay, **Mackay/Whitsundays** radius 200km. (Ph 07 495 575 052; sales@videotronics.com.au)

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Leden Communications, (100km radius) **Glengarry** (Ph 0427 745105; leden@netspace.net.au)

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Foreign Satellite TVP/L, **Melbourne (region)** C+Ku since 1995 (Ph 040445509; joe12@dodo.com.au)

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SatFACTS subscriber! (*) - NEW or modified this month.)

www.drdish-tv.com, distributed by the RR Satellite Network. DVD copies of shows will also be available (www.dxandy.de). This is *not* a first effort - SPACE Pacific sponsored by SatFACTS Magazine produced 15 one hour programmes in the 1998-2001 period which were distributed on AsiaSat 2 and Optus B3. (C. Mass, Germany) "Abu-Dhabi law claims satellite dishes are ugly and must be removed; if owners do not, authorities will". (Terry M.) "University of

Liverpool scientist Dr Werner Hofer has created test-tube laboratory 'single molecule transistor' which when refined to a commercial state would revolutionise the way all solid state electronics are created. Single molecule means much smaller space per transistor, less power consumption, less heat generated, and higher operating frequencies. The good doctor notes, 'Our experiments demonstrate we can control current through a single molecule by charging a single atom on a

TELEVISION: The Technology (preview continues from page 13)

It would be difficult to pick out a 'Best of Max' but certainly the temperature of his vodka-drink was extremely important to the performer. Whether he knocked over or spilt the tumbler that came in the door with him, or he simply consumed the full glass (typically about half way through the WNT first telecast), the staff was obviously on edge about his anticipated demand. He would consume the last drops with a flourish, and set the empty glass down. This triggered a mental count down. I was once told that in bars around the country, people began counting in unison. "One-two-three" and so on. A bar in California held a nightly lottery and the patron who picked the 'correct' number received free (bloody Mary) drinks for the balance of his patronage. The 'right number'? The counting number that corresponded to Max picking up the empty glass, looking at it with his piercing eyes, and then with obvious emotion thrusting it high above his head. That was the end of the counting, when the empty glass 'went high'. This was also an internal staff signal to his 'drink person' to rush out a new, filled, tumbler. It was a no-no to be tardy with this response.

Temperature. There were two things that would set Max off faster than anything else (not to suggest there were only two). The first was the white blond haired makeup lady whom he rode (that is a statement of his verbal abuse - anything else would be supposition) without mercy. She was a "no good sl>>" when he liked her and much-much worse when he found her disappointing. Max educated people all over North America with a litany of new adjectives previously unfamiliar in the white world. And the temperature of his second drink. I could never verify a supposition that before the drink came 'on stage' someone was monitoring it with a liquid thermometer; Max surely had the most accurate temperature-sensing lips ever gifted to a human. Too warm? He threw the tumbler at the delivery person. Too cold? Same reaction, no matter he was due back on WNT in ten seconds time. The drink delivery lady was the usual target of the too hot / too cold missile, but not exclusively. 'Cue the lady with the pail and mop!'

Initially, this was a black woman. One day Max decided this was a poor example of the plight of black folk and he launched into an attack concerning blacks doing menial labor. The next day she was replaced with a white lady. This job was the second most hazardous on the set of Chicago's WNT - immediately following the drink delivery lady (also a black). Whenever Max did not get through a full glass without a spillage incident - which happened with some regularity - he instantly became furious and used the remains as a missile. Max was never apologetic about anything. Never. He took some glee when the missile actually struck the intended target and in the midst of this studio chaos the drink lady and the pail lady had to be ever vigilant and able to respond in a split second.

Under pain of something that perhaps would have made death seem welcome. Max had not only the most vile tongue in broadcasting, he was verbally hurtful by design. If a person had a limp, Max called them a demeaning name such as 'Hob Leg'. If a lady was wearing a tight blossoming sweater - well, she did it only one time.

Meanwhile down in South Carolina the bar had a blackboard and one chosen patron for the day was assigned the task of writing down the new, "Max Robinson words for today". The vodka industry perhaps had their best years when Max was on the air.

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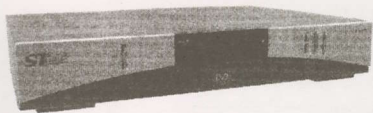
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silicon surface, as all surrounding atoms remain neutral. This is a breakthrough in molecular electronics, creating the potential for devices of unheard-of smallness and unheard-of efficiency. This is the first time it has been demonstrated that a single molecule is in fact a transistor'. When this development turns into products, expect a full STB to shrink to the size of a postage stamp!" (Benjamin, UK) "Satellite radio, at least in the USA, is going mass market. In the early days of TV via satellite, one of the most effective ways to promote people becoming pay-TV subscribers (or owners of C-band-direct dishes) was to put programming from HBO, ESPN and others into motels and hotels - where millions of folks were exposed to it. Now Satellite Radio, operated by

XM Satellite, is going into 50,000 Hyatt Hotel guest rooms. Guests will have access to XM's 150 chatter and commercial free radio through custom XM-designed table top radios in the hotel rooms. Room occupants will be given a brochure promoting XM radio for their cars or homes as a part of the sales effort." (Charles L, Boston) "The Australian Government has given in to pressure from the US State Department and is ready to introduce new legislation making it a criminal activity to access non-authorized pay-TV services. Attorney-General Philip Ruddock has drafted the legislation making the following illegal activities: (1) Sharing pay-TV with a non-subscription location (such as a neighbour's home), (2) Make any use of pay-TV programming (such as Sky Racing) for commercial purposes unless a subscription fee has been paid, (3) Accessing pay-TV in a private home, even if not shared with others. The US Government in 2004 handed Australia a list of 'laws' which the American Government wanted 'corrected' if Australia was to continue to be afforded 'favoured nation status' in trade and commerce. This new legislation is in response to that US 'demand'." (Theodore, NSW) "Latest (current) LNBF for Sky NZ has dual-aperture feed apparently intended to work for 156E (C1) and 160E (B1/D1) lending credence to ultimate plan to merge Australian Foxtel and New Zealand Sky NZ into a single package run from a single source. LNBF has LO of 10.750, installers using C1 12.407/12.519 transponders to 'verify' C1 adjustment, but has only single F-connector (L-band) output; interesting". (C. Sutton, NZ) "US Supreme

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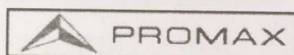
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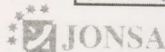
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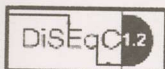
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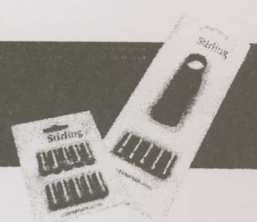
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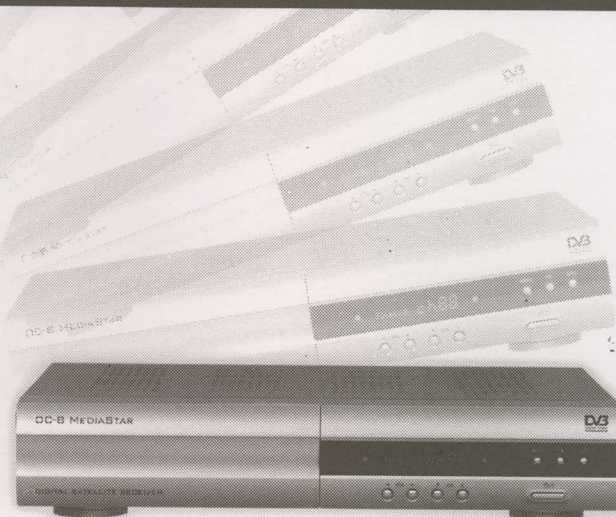
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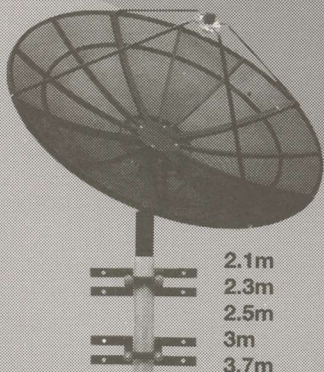
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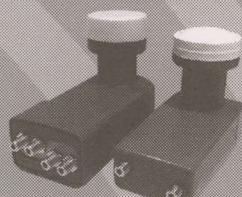


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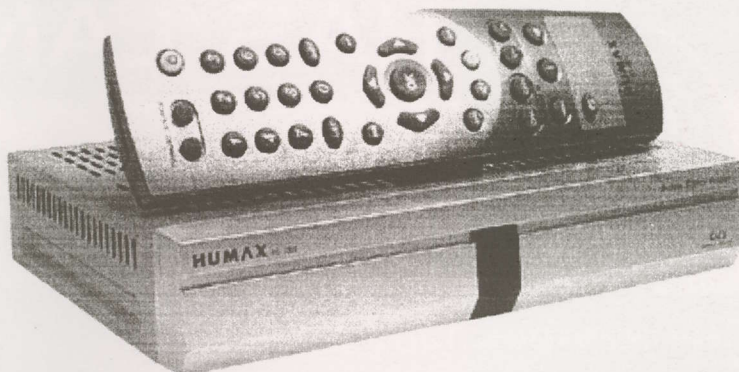
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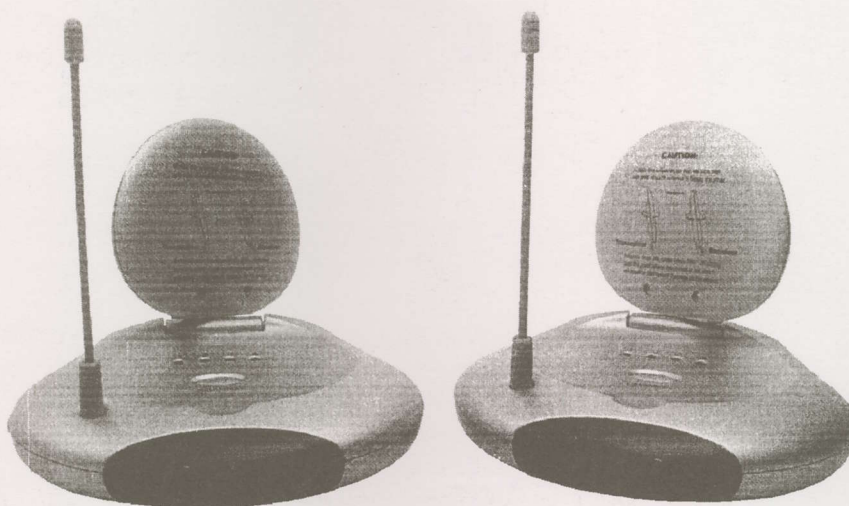


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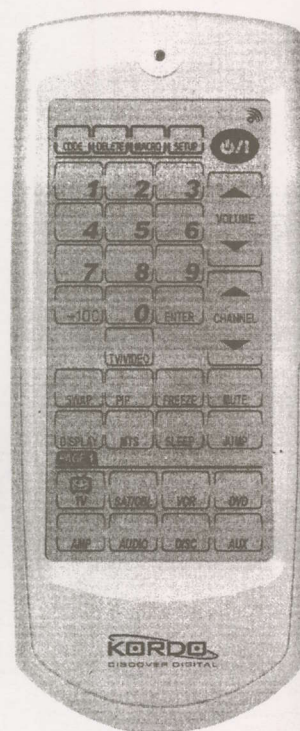
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